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## CLINICAL LECTURE.

### CORTICAL MYELITIS.

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*Gentlemen:* The history of the patient now before you is as follows, he is 21 years of age, a brakeman by occupation. Jan. 3d while on a coal train going down grade at twenty miles an hour, he jumped from a height of about four feet, striking on his feet with great force on a rail-road tie, but was not thrown down. At the time he did not seem to have received any injury and kept at his regular work until January 24th. In the evening of January 24th he began to have pain in the stomach and bowels and this was followed by an attack of diarrhoea lasting four days. Although this made him weak, he still kept at his work. The evening of January 29 he had an attack of headache and vomiting. The headache lasted for thirty-six hours. In the evening of Jan. 30th, that is four weeks ago he noticed weakness in both legs. The next morning the arms were also weak. The head was drawn back somewhat. The feet, hands and face were swollen and the feet pitted on pressure. At this time (Feb. 28th) the diarrhoea had stopped and he had been constipated for several days. He states that micturition was neither frequent nor difficult. The swollen condition of the face, hands and feet continued about one week and then passed away, but the loss of power in the arms and legs has continued until the present time. His voice also is somewhat hesitating but he says that this has always been the case. I was recently in Princeton in consultation

with Dr. McDonald in regard to another case. He told me about this young man and we discussed the nature of the case. He afterwards wrote to me stating that the paralysis was increasing, I then advised that the patient be sent here as he could not be properly treated at his home. He arrived three days ago and I want to carefully examine him with you.

With the history that has been given us, it is difficult to avoid the notion that the violent shock which he received by jumping from the train had some effect in disposing to the symptoms that came afterward, yet it is curious that from January the 4th when the injury occurred to January 24, when the first marked symptoms appeared, the man should be able to continue at his work and as he states feel as well as usual. If there were a marked concussion of the spine produced at the time of the accident, there were no symptoms of it, we must at least admit that this established predisposition to the spinal trouble. From the fact that he worked three weeks after the accident it seems doubtful that there was actual disease started at that time. The fact that as soon as he was attacked with diarrhoea, weakness quickly developed in the arms and legs and has progressed until it has reached a high state of paralysis, shows that the spinal cord must have been in a morbid state at that time, and that being in this condition some subsequent exposure or some fatigue was sufficient to bring on the spinal disease from which he is suffering. If we say that the railroad injury was not the direct cause of the trouble, I should consider it contributory to it, in an important degree.

The present condition of the man is as follows: He can rotate the head from side to side but there is stiffness of the muscles at the back of the neck. At first there was retraction of the head with tenderness of the muscles. As you have heard there was at first weakness in the legs to which was added in a day or two weakness of the arms. There was headache and vomiting in the

beginning, but not much fever. He then had a curious condition which is described by him as a general oedema of the entire body. I did not see this and I do not know that his attending physician saw it, but the patient describes it as a general swelling of the face, arm and legs with pitting on pressure. There was evidently real oedema.

The retraction of the head is lessened but the muscles are not soft. He can rotate the head. By means of the shoulder muscles he is able to communicate a movement to the arms. He, however, is unable to flex or extend the fingers and can not move the arm. The right arm and the left leg are the most markedly affected. There is almost complete paralysis of both legs. In other words, the man is paralyzed from his shoulders down. There is no paralysis of the muscles of the face, and no affection of the special senses. The brain is not involved and the paralysis is evidently due to disease of the spinal cord not extending above the upper dorsal or lower cervical region. It seems to have been an ascending lesion. The legs first became affected and then the arms, but the arms were involved so soon after the legs that we may say that the cord was affected simultaneously in almost its entire length.

Now in regard to the lesion in this case. A haemorrhage high up in the cord above the origin of the spinal accessory nerve would cause paralysis of the arms and legs. This would cause a sudden paralysis, but here the paralysis occurred gradually, first appearing in the legs. A rapidly spreading myelitis, that is, an acute inflammation of the substance of the cord might produce symptoms of this kind. What portion of the cord would need to be involved to produce the symptoms that we have here? In order to determine this we should have to study the sensation and the condition of the bladder and bowels as well as the state of the reflexes. We learn that he passes water naturally four or five times in the twenty-four hours, and that he has had no trouble with the bowels. There is, therefore, no paralysis of the bladder or rectum, and this has an important bearing on the case. Sensation has been tested and found good everywhere. He feels pin pricks and light touches, and can measure the distance between points close together. His power of localization is also perfect. The reflexes on the other hand are absent. Tickling the soles of the feet causes no response, and the patellar reflex is wanting.

Taking the history of the case with

the symptoms present, it is clear that we have to deal with a primary spinal trouble; that this spinal trouble involves a considerable extent of the cord, that it is not a destructive lesion occurring high up. If it had been such a lesion, the symptoms would have developed suddenly and would have affected the arms at the same time as the legs, but the history indicates that the lesion began below and extended upwards. We have here a choice between two lesions, one is spinal meningitis extending along the cord producing exudation and causing pressure, and the other a lesion of a part of the antero-lateral column, a deep congestion or a myelitis extending up in the line of the afferent fibres that compose the antero-lateral columns. I have no doubt that at the beginning of the case there was some meningitis. The retraction of the head is extremely significant, but it appears quite clear to me that the case can not be regarded altogether as one of meningitis. In spinal meningitis, the paralysis does not become complete as rapidly as it did here. Usually, at most, it is partial, a paresis, not a complete paralysis. In the second place, in meningitis, there is, as a rule, much more pain complained of than here. Pain radiates through the affected nerves, and the flesh is more or less tender, and there is a tendency to spasmodic twitching of the limbs and the reflex irritability, instead of being lost is often increased, at least in the earlier stages. I think therefore, that these considerations are sufficient to make us fear that this has not been a simple case of meningitis although in all probability as is often the case in acute affections of the cord, the membrane is more or less involved. Nor can we believe that a simple congestion would keep up such grave symptoms. As I have told you on other occasions, spinal congestion which is not rare, sometimes causes almost complete paralysis which lasts for four or five days or a week and then passes away. It does not deepen as this has done until it becomes almost absolute paralysis of all four extremities. We are therefore compelled to assume that there has been a myelitis—an inflammation of the substance of the cord.

What I believe has happened here is that the shock this man received produced some sensitiveness or weakness of the spinal cord and then as the result of some exposure there was an intense congestion of the spinal cord and also of the gastro-intestinal tract as shown by the vomiting and purging which continued for four days. These symptoms

are not connected with the spinal affection, but simply indicate the violence of the exposure. Note also that even after the occurrence of this attack he kept at his work, that of a brakeman of a freight train, for four days during this time he was still further exposed and in his weakened state he was more easily affected by such exposure. It is probable that what began as a simple gastrointestinal catarrh was succeeded by a myelitis because the man continued to expose himself to these morbid influences and this inflammation being predisposed to by the fact that the spinal cord was in a state of unusual weakness as a result of the accident three weeks previously. Whether or not there was at the same time some renal congestion and the edema of the face and hands was connected with some temporary albuminuria, I cannot say. We would not regard this edema as a direct symptom of the spinal trouble. The myelitis which was established was not a transverse myelitis, that is an inflammation that stretches across the cord involving white and gray matter; when a cross-section of the cord is involved we have paralysis of the bladder. The nerves which supply the bladder appear to arise from the deeper portion of the cord. We may have a cortical myelitis or a myelitis of one fasciculus and the bladder escape as here. The same is true in regard to the rectum. Again, in transverse myelitis the sensation is involved. It affects the gray matter of the posterior columns and the patient complains of numbness, a sense of tingling, a girdle sensation around the waist, and anesthesia is found. Such marked disturbances of sensation indicate that the posterior columns are affected and if associated with paralysis of motion, that the inflammation has been transverse and the entire thickness of the cord is involved. In this case there has been no affection of the sensation and we may safely say that the posterior columns are not affected and that the deeper portions of the cord also have escaped.

Lastly, there has been no marked rise in the temperature of this case, nor have there been marked trophic changes. It often happens in acute transverse myelitis that there occur trophic changes, as gangrenous bed-sores appearing with great rapidity upon the back or buttocks, too rapidly to be attributed to the effect of pressure. I have seen bed-sores in myelitis begin on the third day in a person absolutely healthy up to the moment of the attack, showing that there was a loss of the trophic influence of those nervous cells in the anterior columns of the gray

matter which we know exert so powerful a control over the nutrition of the parts. This patient has shown no disposition to bed-sores. The absence of loss of sensation, the absence of paralysis of the bladder or rectum, and the absence of a tendency to bed-sores, make it clear that the myelitis has not been a transverse myelitis involving all the tissues of the cord. The lesion therefore has been either a cortical myelitis which is sometimes met with, or a fascicular myelitis ascending in a single column. Taking into consideration that there was in the beginning evidences of meningitis, and the slight irregularity in the disposition of the paralysis more marked in one member than in another I am disposed to regard this as a cortical myelitis with leptomeningitis of the cord, that is a meningitis of the pia and arachnoid with inflammation of the periphery of the cord. It is either that or an inflammation of the ascending fibres in the antero-lateral column, excluding, I think, the direct cerebellar fasciculus lying on the outside of the antero-lateral column nearest the posterior horn of gray matter. The other fibres of the cord cross, partly high up below the medulla and partly as they go down the cord. The decussation is not complete high up. Although the majority of the fibres decussate at this point, some of the fibres go down the cord and decussate at different levels. This fact would serve to explain the difference in the degrees of paralysis in the different members. The fact that the right arm and the left leg are the most affected would indicate that the inflammation is more marked on the right side. I think, therefore, that the diagnosis lies between cortical myelitis with slight meningitis or myelitis involving the antero-lateral columns and affecting the right side more than the left.

This is of course a serious condition. Myelitis rarely terminates in complete recovery. The main danger is due to the fact that lesions of the spinal column tend to be propagated in the line of the normal action of the fibres. If this were a lesion of the posterior column beginning high up it would descend. As it is a lesion involving ascending fibres, its tendency is to ascend. There is danger that in these cases the lesion will continue to ascend until it involves the base of the brain. We have noted here a peculiarity of the speech which almost suggest that the glosso-pharyngeal nerve has been reached. The patient, however, states that his voice has not changed.

What is to be done? The case is now more than four weeks old. The nutrition is

fairly kept up. He can take food well. We shall continue to keep up the nutrition with a carefully selected diet. We shall give a mixed diet excluding indigestible, rich or heavy, sweet articles. Attention will be paid to the bowels. If they are not opened twice a week, a laxative enema will be given. I am disposed to put him on the use of iodide of potassium with ergot and belladonna. The only hesitation that I have in adopting this treatment is because I know that his physician has used these remedies from an early period. He has been judiciously treated, and that is one of the worst elements in the prognosis. I shall, however, give him for a while five grains of iodide potassium with twenty drops of fluid extract of ergot and ten drops of tincture of belladonna three times a day. There are no remedies which exert a better influence over the blood vessels of the cord than do ergot and belladonna. I give the iodide in the hope that it will favor the absorption of any exudate that may be present. In addition we shall have massage with passive motion of all the joints practised in order to prevent wasting and contractures. The time has now arrived when we may safely use Faradic electricity over the lines of the nerves of the arms and legs. We shall also employ counter-irritation to the spine.

Two weeks later this patient was again presented showing some improvement. He had gained some power over the larger muscles of the left arm and could move the legs better. There was no improvement in the right arm. The treatment was continued and cupping along the spine twice a week added.

## COMMUNICATIONS.

### BOWEL TROUBLES OF CHILDREN.\*

BY I. L. VAN ZANDT, M. D.,  
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It is not intended that this paper shall be exhaustive of the subject treated. I purpose giving only some of the results of my observations during the twenty-five years of my practice.

I will premise by saying that either this class of cases has become very much milder

\* Paper read before the North Texas Medical Ass. at McKinney, Tex., June 16th, 1891.

or I have become much more proficient in its treatment, for while in former years death was not uncommon, I cannot now recall such a result in one of these cases in the last six or eight years.

Observation has led me to divide the ordinary bowel troubles of children into three classes, according to the character of the discharges. Experience has taught me that each of these classes requires and is amenable to its own special, I might almost say specific, treatment. My division of these discharges is as follows:

1st. Those composed largely of blood and mucus.

2d. Those composed of a green or greenish material frequently associated with shreds of coagulated milk. This class will embrace also those cases in which the matter is passed yellow and becomes green afterwards. Green actions are generally almost odorless.

3d. Those with very offensive smelling actions, of various colors, shades and consistencies.

Do not understand me to say that all cases will typically come under one of these heads, but I do say that a very large proportion, perhaps 90 per cent., will show a close approximation to one or a blending of the characteristics of the two, not often of more than two of them.

As to the cause for the first, the dysenteric, I can say nothing. It seems to affect both children living entirely at the breast and those fed wholly or in part by hand; the latter class being the greater sufferers. I will say, without having kept a record, that, as with adults, May is the month of greatest prevalence in central Texas.

From "West on Diseases of Children," I learned a long time ago to rely mainly on castor oil and laudanum when we have to deal with mucus, blood and tenesmus, the laudanum varied according to frequency of action. These are my staple but not my only remedies. I give most cases a prescription something like this:

R.	Ol. Ricini.....	3j.
	Tr. Opii.....	gr. x.
	Ol. Anisi.....	gr. ii.
	Pulv. Acacia.....	q.s.
	Syr. Simplicis.....	ad. 8j.
	M. Sig. Teaspoonful every three or more hours. This	
	for a child one year old.	

To this I may add Ol. Terebinth if there is a tendency to the formation of gas; pepin or papoid if undigested food is passing; bismuth if the actions are particularly offensive to the smell; hyposulphite of soda when the associated fecal matter is green. In some cases which were stubborn and disposed to

become chronic, I have had marked improvement follow the use of bichloride of mercury in 1-240 grain doses, repeated every three or four hours, with the oil and laudanum mixture or with an opiate alone.

For many years I had felt the need of a satisfactory prescription for the green diarrhoea of children, when about two years ago I had occasion to prescribe hyposulphite of soda for a child having green discharges, not, however, having in view the correction of this particular feature, but the correction came, though unlooked for. Acting on this hint I worked out the following prescription, which has had a very happy effect in a large percentage of cases :

**R** Sodii hyposulph ..... gr. xx.  
Eas. pepsin (Fairchild's) ..... 3 ij.  
Tr. opii ..... gtt. oo to xxx.  
Syr. aurant. q. s. ud ..... 3 j.  
M. Sig. Half teaspoonful every three hours, preferably after eating.

The opiate is varied according to frequency of the actions. If these do not occur more than two or three times in twenty-four hours, none is given, its use being intended only to retard peristalsis to such an extent that the digestive juices may have time to act on the food.

This character of trouble I think occurs most frequently among children at the breast; frequently among those having no artificial food, resulting, probably, from some ill condition of the mother, causing a deterioration of her milk. One case I now recall, having come on soon after the babe was nursed by the mother overheated and fatigued by a long walk. This mother tells me that such a thing occurred several times.

I come now to my third and most numerous class, perhaps outnumbering both of the others together. The subjects of this we find almost exclusively among children wholly or in part fed by hand. The large majority will be found between the ages of ten months and two years. The pathognomonic symptom of this is the exceedingly offensive odor of the discharges, which are generally of a dirty brown, varying in consistence from that of mush to a dirty water which runs through the napkin, leaving only a stain; in frequency from two or three to a dozen or more in twenty-four hours.

In 1873 I got from J. Lewis Smith's book on "Diseases of Children" a prescription which after some experiment I made to read as follows:

**R** Pulv. opii ..... gr. j.  
Hydarg. chlor. miths ..... gr. ij.  
Cream prep. ..... 3j.  
Bismuth subnit. ..... 3j.  
Sacchari alb. ..... 3j.

Ol. anisi ..... gtt. iv.  
M. div. in part ..... xii.  
Sig. One every three or more hours.

In this as in other prescriptions the amount of opium varies with the frequency of the actions.

This prescription has served me so well that I almost think there is no better. On account of its bulk and inconvenience of administration I have often tried to find a substitute, but have generally been forced to fall back to the old and tried servant, just as most of us have probably done when we have been induced by the oversanguine praise of some enthusiast, to try a substitute for quinine in malarial fevers.

In all of these classes, rise of temperature must be combated on general principles.

Special attention should be paid to diet, studying the peculiarities of each case and adapting thereto its proper diet, for all cases do not require the same. I will mention only one article of artificial food. It is not patented. It has served me well both in my practice and at home, my last baby having been raised on it. It is oatmeal water one part, sweet milk two parts. The water is made by boiling oat meal in a surplus of water, setting aside till the meal has settled to the bottom, and then decanting the supernatant liquid. This should not be mixed till just before using, as the mixture does not keep well. The "water" should be prepared once or twice a day as may be necessary to keep it fresh.

It will perhaps be observed that I have said nothing about cutting gums. I have been in the habit of saying that the best preventative for "teething diarrhoea" is to teach the mothers that teething has nothing to do with it, so that they may look elsewhere for a cause. Get them to understand that improper feeding is responsible for nine-tenths, filthy surroundings for nine-tenths of the balance, leaving one case in a hundred for undefined causes, among which may be teething.

I repeat I do not expect every case to present a typical exemplification of one of my classes, but that nine out of ten will do so or show a blending of the characteristics of two of them.

It may be said that I am a routinist. So might a physician of a non-malarial country, when making his rounds with his friend the "swamp doctor," on seeing the uniformity with which he gave quinine, accuse him of routinism. His ready response would be, these these cases are all the same and need the same treatment. So I say the cases of each class are of a like character and require like treatment.

SOME OF THE RECENT ADDITIONS TO OUR  
MATERIA MEDICA AND THEIR THER-  
APEUTICS. \*

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The great number of, so-called, new remedies which have been introduced during the last decade and a-half, is truly marvelous, and the therapeutists of to-day must have a thorough knowledge of these recent additions to our *materia medica*, combined with the power to discern the conditions whereby their application to the treatment of disease will assure the prescriber more definite and favorable results, than those with which we are more familiar, and which have proven to be of inestimable value in many emergencies.

It is quite impossible in the time allotted to the reading of a paper before this section, to give even a passing notice to all the new remedies possessing merit, and a full consideration of any one of them, which I shall name, would form an exhaustive article. A goodly number of these remedies have been properly classified in accordance with their medicinal action, and have been assigned their respective places beside those which have borne the test of years, while others have so far been noticed only in the journals and trade circulars, pending more thorough investigation. To make use of a social phrase, the "bringing out" of a new remedy is attended with many misgivings, and subjects the author to severe criticism by his professional brethren, both far and near. The vegetable kingdom has been very generous in contributing its productions for the benefit of the science of medicine, especially is this true for the period above referred to. Undoubtedly you are all familiar with the botanical history and medicinal properties of the drugs which I shall name, hence I will not weary you with a review.

We are frequently disappointed in the action of medicines and diligently watch for relief that never comes.

Individually, we are very prone to look at their effects differently, or in other words, convince ourselves that our experience with a given preparation, is directly opposite to that of Dr. B., who has called our attention to it in such glowing terms.

Belonging to the list, and which have gained great favor with the majority of

practitioners I will enumerate a few of the most prominent and favorably known, to wit: cascara sagrada, yerba reuma, yerba santa, jamaica dogwood, eucalyptus, straphanthus, quebracho, cocaine; and a score of others whose properties are as well defined as these. We were taught that the *ext. of rhamnus purshiana*, was the remedy *par excellence* to overcome constipation, regardless of the primary cause. At first, given indiscriminately, failure was the rule, then it was claimed by the discoverer, that it had a tonic effect on the muscular coat of the intestinal tract, stimulating peristalsis; that the active principle was similar in its effects on the human economy to strychnia, and that in order to obtain definite results it should be administered in small doses, and continued for a length of time, *i. e.* until the habit was overcome.

To administer a single dose sufficiently large to act as a cathartic would not best serve the object in view, in fact it would not be preferable to many of our more palatable laxatives.

The rule with this amendment has possibly been followed to the letter, and just so long as the patient perseveres in its use so long is he or she relieved and no longer.

How many of my colleagues present ever cured, or relieved permanently, a case of habitual constipation and traced that cure solely to the administration of *cascara sagrada*.

The mere habit of giving nature an opportunity at regular intervals, in connection with a proper diet, is in my judgment of more value than the exhibition of this highly extolled remedy. The well defined action of this drug as a cathartic, precludes any comments derogatory to this medicinal property.

Tyro prescribes it with the same amount of assurance, as to the results, as he would opium to allay pain, which is very proper, as the prescriber must necessarily have confidence in his prescription if he expects to inspire his patient with this same property so essential in combating disease.

Do not assume that I am opposed or a foe to this very worthy drug. I prescribe it frequently in the manner before stated, but when considered as a *specific*—pardon the term—for that which it has been so highly lauded, I must needs take exceptions, as my experience has been diametrically the opposite, and the conclusion is arrived at without prejudice.

*Yerba reuma* possesses properties well worthy our attention. As an alternative to inflamed mucous membranes of long stand-

\* Read by title before the Michigan State Medical Society, June 12, 1891.

ing, topically applied, I consider it without a peer.

In ozena with that most foetid of all orders, I have found it very useful, and in chronic inflammation of the Schneiderian membranes it is even more effective, and a few patients have claimed that they have received permanent benefit in chronic nasal catarrh, by the insufflation of this preparation, properly diluted. I do not wish to be placed on record as claiming curative properties for this drug in chronic nasal catarrh, as I attribute the exciting cause largely due to climatic influences, over which medication has no control.

Yerba santa in laryngeal troubles, strophanthus as a cardiac stimulant, and tonic, Jamaica dogwood, and sulfonal, as sporifics, these we will pass by, with many others, and consider antipyrin, the most popular derivative of the coal oil series, a remedy that gained a world-wide reputation in the treatment of that protracted and serious epidemic, la grippe.

The discoverer, Dr. Knorr, prepares it synthetically from the constituents of coal tar, and places it at our disposal as an infallible antipyretic, although devoid of anti-periodic properties. From large doses collapse may occur, and 50 grs. given at one dose is said to have caused death in 32 hours.

This potent remedy has unquestionably been productive of great harm, during the prevalence of Russian influenza.

The intense cephalalgia, which is so prominent a symptom in this disease, was relieved very soon after the administration of a full dose of antipyrin, and this promptness in alleviating pain has proven a great incentive for its use in many paroxysmal troubles. It has formed the base of a large number of the prescriptions which have been compounded for the treatment of this malady. Given in maximum doses, and continued for an indefinite period, must now be considered a misuse of the remedy.

A patient already prostrated by the ravages of this grave disease, with the heart's action weakened to such an extent as to favor local congestions is literally fed on this mere depressant, thus adding fuel to the flame; still not having a thorough knowledge of its physiological action, we adhered to the routine practice, and persevered in its use, which in many instances, I fear, actually retarded the patient's convalescence.

I have in mind a case, the history of which will illustrate the point I wish to impress upon you. Dr. R—-set 37 years, a

practitioner, had been intemperate for years, though capable at most times of attending to business, was attacked with the gripe and to relieve the excruciating pain in the head, was forced to take large, and repeated doses of this preparation, and at the same time, abstained from his accustomed stimulus. When I saw him he was an object of pity, and in a most deplorable condition mentally, bordering on imbecility, although articulation was very indistinct, and his muttering delirium, alternating with sopor, or mild coma, from which the patient when aroused, would again revert to this uncontrollable delirium, formed a chain of symptoms not duplicated in most of the neuroses. Then is it not plausible to assume, that the indiscriminate, and injudicious use of this drug by its depressing effect on the heart's action, induced stasis, deposits &c? Particularly of the brain, which being burdened by alcoholism, and thereby developed this condition of the nerve centre referred to, and which in all probability will result in a structural change of the brain tissue, and a consequent cerebral softening. After giving King alcohol due credit for his part in this case, there remains sufficient evidence to warrant us in believing, that the excessive use of this preparation, should be interdicted, as the above case narrated would justify us in arriving at the conclusion that there is danger of forming the habit of taking antipyrin, as well as opium, chloral hydrate, cocaine, &c. with an equally disastrous and sad ending. This is but one of several instances differing only in intensity.

I will call your attention to but one other remedy and that is resorcin. It has not sustained its reputation as an antipyretic, was formerly used as an alterative through its caustic properties in chronic skin diseases.

Prescribed internally almost solely in those conditions of the stomach, and bowels attended with an excessive formation of gas, as the result of a fermentative process.

It is a favorite remedy with the venerable Dr. N. S. Davis of Chicago in the class of cases referred to. It undoubtedly possesses virtues of this character, as do many others.

In considering the relative values of the newer and older remedies, what have we to offer in favor of the former? When are we guardians of the public health, justifiable in making this attempt at empiricism, when their supposed therapeutical actions are identical? Should we refrain from prescribing the newer remedies until the list of older ones are exhausted? Administer them to the moribund patients expecting thereby to

reach the pinnacle of fame in the estimation of our patrons and generate the feeling of enviousness with our professional brethren by thwarting death? Such a course would be very unjust to say the least, and the unfairness of which would be preceptible to all.

What is the object in making the change? Having prescribed a medicine with which we are very familiar, and which has not disappointed us in the majority of instances, notice the confidence with which it is administered to a patient in a critical condition; how eagerly we watch that life intrusted to our care, believing in, and expecting to observe some characteristic effect, whereby our patient is to be benefited. Are they more reliable or specific in their action? No, but a goodly number of these new additions have their medicinal action defined by their manufacturers with a mercenary object in view. Consider for a moment the extensive collection of printed advertising matter, that finds its way upon your office desk in a very limited time, issued by unscrupulous manufacturers, and equally unscrupulous dealers. This does not apply to all, but to the list considered as a whole. Too much credit can not be given to the worthy, as they form an essential part of our profession, and without them we could not succeed. Proprietors of these fraudulent pharmaceutical preparations, are not wholly to blame for the exaggerated, and supposed merit of this class of medicines.

Charlatans take an active part in this drama. To illustrate; Drs. R. and B. had, or claimed to have, a typical case of that human pest, typhoid fever. Patient was pronounced by them to be in a critical condition, and the case a hopeless one. Owing to the supernatural power possessed by the junior member, he was informed by some *innate prompter* that there was, obtainable in Chicago, a new remedy, a specific for this fever. He visited the city, hurriedly procured this wonderful compound, returned to his patient, barely in time to save life.

Patient's convalescence dated from the giving of the first dose, and thus a life was saved. This proves the assertion, that many new preparations, standard, semi-secret and proprietary, afford a new device for the mountebank, or pretender, to control his patrons by claiming to have knowledge not attainable in the regular way.

We may ask the question; if the application of remedial measures to the treatment of disease is an exact science, why are we so frequently disappointed in the results obtained?

Why is it that Dr. B. has such unparalleled success in the treatment of laryngeal troubles, through the exhibition of *verba santa* or Dr. J. with *cascara sagrada* affords his patient permanent relief from constipation.

To be more expressive, must we take it for granted, contrary to our experience, that such wonderful cures are performed by a few physicians, while the great majority of equally well qualified practitioners proclaim that their trials have proven the reverse, when given in similar doses and under identical circumstances. We are all more or less inclined to be routinists, to have favorite formulæ, and strive to have our cases conform to them, in lieu of vice versa.

In most instances the selection of a remedy, or the formation of a prescription, is not so difficult as the true naming of the disease. And he, who is the ablest diagnostician, is, *the most successful practitioner* irrespective of individual "hobbies" the important question is not what are you giving, but what are you giving it for?

To summarize.

The number of unreliable remedies is far too great. That it is impossible for the active practitioner, to devote sufficient time to their investigation as to render himself, or herself a competent judge as to their merits. That in consequence we are forced to accept the word of unfair dealers.

That unless they possess some properties not found in the older there is no reason for substituting the new, for the old.

That when the pathological condition is clearly defined, there is enough to give. We are all in favor of progressive medicine but, *not in favor of progressive quackery*.

To conclude, remedies like men, must stand, or fall upon their merits, and upon this basis, the motive for this paper is founded, and presented to you for your consideration.

#### THE TYPES AND TREATMENT OF INTERMITTENT FEVER.\*

BY ROBERT C. KENNER, A. M., M. D.

Within the last thirteen years I have treated more than three thousand cases of all forms of intermittent fever. These were seen in the most malarious portions of Kentucky and Arkansas.

\*Read before the Hardin County Medical Society, September 3, 1891.

October 3, 1891.

## Communications.

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I have taken careful notes of these cases and have arrived at the conclusion that there exist several types of this disease which I shall briefly describe.

It is not my intention to give an extended review of the therapeutics of intermittent fever. This would be most interesting and would acquaint one who had not read medical literature with many curious facts and practices. But the limit of this paper forbids this altogether, and I shall therefore confine myself to those remedies which I have found of the most substantial value.

In this paper I shall only consider the means of intercepting future paroxysms, leaving the treatment of the issues of the paroxysms, itself untouched.

While the paroxysms may be essentially alike and have their origin immediately or remotely in the same cause, the practitioner is confronted daily in practice with *several distinct types of this fever*.

In other words, we constantly meet cases in which, while they are alike as to form, there are symptoms and conditions of the system accompanying the one that are wanting in the other, and measures that will speedily cure in one case will utterly fail in another. It is one of the primary objects of this article to define as clearly as possible symptoms and conditions which constitute and differentiate these types. My experience leads me to look upon intermittents of the quotidian, quartan, or any variety, as assuming according to the state of the system four different types, and the treatment to be largely successful in warding off future paroxysms must be adjusted on the basis of this differentiation of the types. Intermittent fever is no more necessarily the same in two or three cases in practice than so many cases of pneumonia or typhoid or scarlet fever.

The types of intermittent fever met with in practice may be classed in this order: (1) That which is attended with that condition known as "biliousness" in its most marked form. Plus the fact that the patient has had an intermittent paroxysm, "the complexion is muddy, the conjunctivæ are yellow, the tongue is heavily coated with a yellowish-white fur, a bitter taste persists in the mouth, the breath is heavy in odor, even fetid."\* There is generally a disgust with food and more or less obstinate constipation. If the bowels have acted, they have generally done so imperfectly, and the dejections are clayey or yellow in color. There is frequently

retching and vomiting. Vomiting is very often an annoying symptom. This type I have observed occurs *only* in those patients who have resided in *very* malarial districts, those who live close to stagnant streams or pools, or near the banks of a river which is low or overflows and inundates the adjacent lands. It seems that malaria formed in a locality of this kind is necessary to the production of this type. This type of intermittent fever formed ten per cent. of the cases of which I have notes. (2) The second type is that one in which the accompanying symptoms of "biliousness" may be present, but to a much less extent, or even, as they often are, entirely absent. The tongue is usually more or less coated, though it is many times perfectly clean. The bowels are generally constipated, but frequently it is only to a slight extent, and sometimes there is diarrhoea with a red "beefy" tongue. The muddy complexion and other symptoms of the preceding type may be present in a less marked manner. The patient generally gives a history of malarial exposure, though he is often unable to make it out, and as a rule he has not been subjected to as virulent a degree of poison as the class who present cases of the first named type. The febrile action in the hot stage will run as high, and the other stages will present no distinctive differences from ordinary intermittent fever, only that the first-named type may be attended with more gastric irritability and other symptoms of "biliousness." This type is the one ordinarily met with in practice. (3) The third type is where the paroxysms have persisted long and the patient has malarial cachexia. The patients are those who have been exposed to the action of the malarial poison for a long period, and who have had paroxysms regularly, in some cases for six months and a year. The patients are anaemic and usually have enlargement of the spleen and liver, with more or less dropsy. There is often bronchitis and diarrhoea, and this type has been mistaken for phthisis. The paroxysms are often masked, the cold stage is frequently but feebly expressed, and sometimes omitted entirely. The patient suffers from neuralgia and gradually becomes weaker until he succumbs, unless the treatment is successful.

The fourth type is the one in which the paroxysms seem to recur from *habit*. Its history is one usually marked by more or less continued exposure to the poison and neglect to employ remedies in proper time and manner. The patients are generally more or less anaemic, but present nothing

\*The words in quotation marks are from Bartholow in Pepper's System.

like the depraved physical condition of those having malarial cachexia. It is seen mostly in those persons who have undertaken to treat themselves, or have resorted to the various nostrums until the system has become impoverished to a degree, and when the physician orders quinine taken in the interval he finds it unavailing. Even after removal to a healthy neighborhood the chills will recur.

While in this connection, it will not be out of place to speak of the importance of satisfying one's self that the patient has intermittent fever. Chronic pleuritis, hepatic abscess, abscesses, hysteria, hectic fever, and other diseases simulate intermittent fever very closely. Professor Andrew H. Smith, of New York, recently reported a case of malignant endocarditis which simulated intermittent fever very closely.† Graves, in his Clinical Medicine, lays particular stress on the importance of diagnostinating intermittent fever, and details a case of hectic fever which had been denominated intermittent fever by several able practitioners of that day.

In the treatment of the first type of cases, nothing is so important as the timely administration of the compound extract of colocynth alone or in combination with calomel. Without regard to the time of the next recurrence of the paroxysm, I usually give it in doses of from ten to fifteen grains, repeated every eight hours, till the tongue has cleaned off and the symptoms of biliousness have entirely disappeared. Should the paroxysms recur after this has been effected, quinine will have to be resorted to. But it is not, according to my experience, good practice to give quinine at the beginning of this type of cases. I have never seen a case that was clearly defined of this type that would not readily yield to this treatment. When gastric irritability complicates this type, the mild chloride of mercury should always be combined with the colocynth, otherwise it is not always necessary.

In the second type of cases we are called to treat the ordinary expression of the malarial poison. This is the form in which quinine acts as a specific as much as any drug acts under the circumstances. Given properly it is almost an antidote. I have found it best to give the antiperiodic in five doses, of four grains each, beginning six hours before the paroxysm is expected and given hourly until all five doses are taken. The last dose of the quinine will, of course,

be taken an hour before the time that would be occupied by a chill. I have no reason for believing that the antiperiodic virtues of quinine are increased by giving it in one large dose, as Hertz and others advise. I order the antiperiodic taken as stated above, for three consecutive days. It is given with advantage in this manner, over the practice of giving what we consider the antiperiodic quantity at any time in the interval. One reason is that during the time quinine is being taken we keep the patient in doors till the time of the chill has passed, while if it is taken in the sweating stage, the patient might go out, unduly expose himself, and bring on the paroxysm. Then, given in this manner, we are more assured that the malarial poison is neutralized; besides, the production of cinchonism for three consecutive times will make the chances for the return of the chill almost inconsiderable. The experience of several great observers would seem to confirm this position. Professor Flint declared the chances that cinchonism produce in the interval would ward off a recurring attack was about equal with failure. It would seem that Professor Loomis favors this plan of producing several cinchonisms. He says, "Having prevented the recurrence of a second paroxysm, it is important that a moderate degree of cinchonism should be maintained for a number of days by the daily administration of quinine, in moderate doses, about two hours before the time of day at which the first paroxysm occurred; ten to fifteen grains should be daily administered." || I have found the antiperiodic given in the sweating stage often produced vomiting. But granting that it will not produce even nausea, the fact that the patient might go out and bring on another paroxysm is sufficient, together with the fact that no advantage would be gained, to condemn the practice. Since I have begun to give the antiperiodic later in the interval my success has been greater. My experience has led me to the conclusion that quinine given in solution is not more certainly antiperiodic. Fluids, it is well known, are more easy of absorption than powders, yet we are not on this score to ignore making our prescriptions palatable. The exhibition of quinine in capsules is a practice open to no objection if they are soluble. I have never had cause to regret using the drug in this manner. To give it in freshly made pills is also a good way. When the stomach is irritable I order two grains of oxalate of

†See *Medical Record*, July 30, 1887.

||Loomis' Practice of Medicine, p. 116.

cerium with each dose of quinine. When the agent is to be given to children, I have ceased prescribing it any other way than in the aromatic syrup of yerba santa when it can be taken by the mouth at all. It completely disguises the taste of the drug and makes it so palatable that children like it. When it is not advisable on any account to give it *per os* or *per enema* it can be given hypodermically with advantage. Given in doses of six grains hypodermically, I have found it equal to twenty taken *per os*. When there is furred tongue and other symptoms of biliousness, colocynth and calomel should be added to the treatment.

Sternberg ascribes the oxytoxic powers often attributed to quinine to a misconception. I have often given women advanced in pregnancy full doses of quinine, and have never had the least reason to regard it as an abortifacient. Malarial fevers often produce an abortion, and this is how the drug came to be looked upon as an exciter of uterine contractions. *Cornus florida* (dog wood), given as before outlined may be used. So also may the kindred alkaloids of cinchona and the remedies mentioned above. Fifteen or twenty grains of the bromide of potassium or sodium given during the time quinine is being taken will entirely relieve the unpleasant effects of cinchonism, such as tinnitus aurium, etc. This also lessens the tendency to nausea and vomiting. Such good results follow it that I almost follow giving it in a routine way, and never fail to give it when the patient complains of the unpleasant effects of cinchonism.

In the third type removal from the malarial surroundings is imperative. The patient's general health must be looked after. Codliver oil, arsenic and iron are the remedies which will afford the best results. Diarrhoea, bronchitis, and whatever complications may exist will demand special interference suitable to the particular case and not possible to outline here. Arsenic should be given until the symptoms of arsenical poison in the edema arsenicalis appear. Quinine should be directed against the chills or elevations of temperature for one month, if that long be necessary to dissipate them.

The fourth type, which is seemingly *habit*, calls for treatment somewhat different than the other varieties. There are several remedies which render us substantial good in these cases, and which may be relied on with confidence. The patients should be put on tonics, such as iron. I frequently

prescribe tr. ferrichlor. in combination with liq. arsen. chlor. with the most satisfactory results. The best means to arrest the paroxysms are those agents which impress the nervous system. The bath of cold water is an excellent measure, used as above directed. Opium in full doses, one hour before the expected paroxysm, is one of the surest means of curing this form. It is well often to combine capsicum or piperine with the opium. Opium should be given for at least three consecutive days, or may be longer.

When the chills recur every fourteen or twenty-one days, quinine in doses of five grains, given for a period of four weeks, generally succeeds, in my hands, in curing them.

#### AN OPHTHALMOSCOPE FOR GENERAL USE. \*

BY EDWARD JACKSON, M. D.,  
PHILADELPHIA.

It would be a great gain to both doctors and patients if a much larger proportion of those who class themselves as general practitioners were able, when the need for it arose, to use the ophthalmoscope. One who has no practical experience with it cannot even properly appreciate what he reads or hears of ophthalmoscopic appearances. And there are in the aggregate many cases in which the progress of general disease could be far more intelligently followed by its routine use, without entering upon debatable ground or attempting to use symptoms of doubtful significance.

With the ophthalmoscope, as with other instruments, the cheap instrument is very apt to lack certain important features, and the costly instrument is mainly confined to the possession of those who mean to use it a good deal. It took many years to adapt the microscope to the needs of clinical work, to rid it of mechanical stages and other mechanical nuisances, and perfect its really essential parts. And the ophthalmoscope must pass through a similar pruning and adaptation before its use can be truly popular and common in the profession. For some years I have been working at this problem, and herewith present my results.

The ophthalmoscope for general use must: First, be one in which the difficulties of

\* Read before the Philadelphia County Medical Society, Sept. 9, 1891.

using the instrument are as far as possible overcome. Second, it must be one that will be as satisfactory as any of the best instruments for any case that is likely to be encountered. Third, it must be cheap. For this one I have no hesitation in claiming that with it the fundus of the eye can be seen as readily as with any ophthalmoscope heretofore made; for all practical purposes as a refraction ophthalmoscope, its lens series is complete; it can be bought for eight dollars.

It is easy to see through, because the mirror, which is circular, 30 mm. in diameter, tilts each way to the best angle, at about 25 or 30 degrees; it has a shorter canal, and wider lenses than have most first-class refraction ophthalmoscopes; each lens is retained in exact position by a spring stop, and all the lenses or combination of lenses are available without taking the instrument from the eye.

The lens series is furnished by combinations of six lenses in two slides, and consists of convex 1, 2, 3, 4, 6, and 12 dioptres; concave 1, 2, 4, 6, 10, and 22 dioptres. To appreciate this series one must bear in mind the degrees of ametropia that are commonly encountered in practice. Among 4,000 eyes, the statistics of which I have published in the *Transactions of the American Ophthalmological Society* for 1889, only one eye had hyperopia of 13 dioptres, and only one eye had myopia of 23 dioptres.

The series does not contain half-dioptres, which are given in all the larger refraction ophthalmoscopes; but every prominent ophthalmologist has recently said that he had the half-dioptre lenses taken out of his large instrument (Noyes' modification of Loring's) as comparatively worthless. Under especially favorable conditions there are a few ophthalmoscopists who have constant and extensive practice with the instrument who can I believe measure refraction with a little more exactness with half-dioptre lenses than they could with only whole-dioptre intervals. But the ophthalmoscopists that can do this are comparatively few, the cases in which they can do it are few, and the practical value of doing it is utterly insignificant. For those who are not in special practice half-dioptre intervals are always a delusion and snare, a hindrance, a cause of inaccuracy. They are, therefore, discarded.

Although the statistics above referred to show that in but one eye in 40 of those encountered in practice is the degree of ametropia over 6 dioptres, to one not very familiar with the properties of lenses the intervals between the stronger lenses of this

series may seem too great. Such must be reminded that the effect of every intermediate lens strength may be obtained by slightly varying the distance of the lens and instrument from the patient's eye. Thus the convex 6-dioptre lens acts as such only when placed against the eye; by drawing it back less than three inches it is made to act as a 12-dioptre lens, and within that space will correct any intermediate amount of hyperopia. By withdrawing the 12-dioptre convex lens a little over one inch it takes the place of a 20-dioptre lens. On the other hand, by withdrawing the concave 22-dioptre lens a little over two inches its effect is diminished to 10-dioptres, and in that space every intermediate strength is reproduced. In the same way the withdrawal of the 10-dioptre concave lens to the same distance gives us the 6-dioptre effect.

When this is remembered it is readily seen that any measurement of refraction by strong lenses is utterly untrustworthy unless

the distance of the lens from the eye is taken into account; and if it is taken into account, any additional intermediate lenses are quite unnecessary. The above series is sufficient for the direct method in all cases except the very highest myopia, for which the expert ophthalmoscopist is apt to resort to the indirect method as more satisfactory.

To one accustomed to using a disc ophthalmoscope the arrangement of lenses as here in slides will at first seem awkward and confusing, but to one who begins with this instrument, or who has already used an instrument in which the lenses are so placed, it is especially convenient. The convex lenses are all in the back slide, the concaves in the front. One can be used alone, or both slides can be moved at once by the tip of the same fore-

finger, according to the lens required.

In the focus of the mirror, the size of the sight hole, the blacking of it, the proportioning of the instrument, and its mechanical execution, it is to equal the best ophthalmoscopes now used. It is made by Mr. D. V. Brown, of Philadelphia.



October 3, 1891.

## Society Reports.

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Since this is not my first attempt at the modification of the ophthalmoscope, and another instrument has my name associated with it, perhaps it will prevent confusion if I exercise the right of naming this. And with the idea of giving it a name that shall by a single word indicate the idea of its design for general use, I shall call it the Poly-clinic Ophthalmoscope.

## SOCIETY REPORTS.

THE SECOND TRIENNIAL MEETING OF  
THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS HELD  
IN WASHINGTON, SEPT. 22, 23,  
24 AND 25, 1891.

## GENERAL SESSION.

The Congress was called to order by the Chairman of the Executive Committee, Dr. William Pepper, who introduced the President, Dr. S. Weir Mitchell, of Philadelphia.

The first scientific matter brought forward was the disease or conditions underlying the

## INFECTION OF WOUNDS,

including a discussion of disinfection with reference to treatment of wounds, of the relation of bacteria to suppuration, of the resistance of tissues to the multiplication of bacteria and of the effect of antiseptic agents on wounds.

The discussion was opened by Dr. William H. Welch, of Baltimore, Md., who held that the presence of certain kind of bacteria as an essential condition of wound infection is so well established that discussion of this point is not likely to arise. The comparatively simple conception that a wound to which bacteria gains access, necessarily becomes infected, has been greatly modified. The traumatic infection present there own peculiar problems. The doctrine of wound infection involves the consideration of many varying and often complicated factors relating both to the agent of infection and to the individual exposed to the infection.

The subject was considered under the following heads:

1. What are the micro-organisms concerned in the infection of wounds, and how do they act?
2. How are we to explain the great differences in the effects produced by the pyogenic micrococci; their apparent harmlessness

under some conditions, their fatal influence in others?

3. What are the ways by which bacteria gain access to the wound?

4. How often are bacteria to be found in wounds treated antiseptically or aseptically? What are the character of these bacteria, and where do they come from?

5. What are the best means of surgical disinfection?

The observations as to the relative frequency of the ordinary pyogenic staphylococci and streptococci are not altogether concordant. The yellow staphylococcus appears to be more common in furuncles and abscesses than the white staphylococcus.

The author had found a white staphylococcus in small stitch abscesses and minor grades of inflammatory disturbance in wounds treated antiseptically and aseptically, which differs in certain particulars from the staphylococcus pyogenes albus. He suggested that it be called the staphylococcus epidermidis albus. The efforts to differentiate into distinct species the pathogenic streptococci have met with little success. The list of bacilli which may be concerned in suppurative and other inflammatory affections is much larger than was formerly supposed. The bacillus coli communis was referred to. The chief interest of the observations being that they furnish an illustration of the possible predisposition to infection afforded by intestinal lesions, and also give an example of the much disputed auto-infection of the suppurative inflammations examined bacteriologically, with negative results may be mentioned abscesses in which the bacteria were presumably dead, several cases of pyosalpinx and suppurating buboes and some abscesses of the liver.

There is reason to suppose that the process of suppuration serves a useful purpose and is one of the most efficient weapons employed by nature in combating invading micro-organisms. Exactly how the abscess formation checks the invasion of bacteria we do not know.

The quantity of a culture of the staphylococcus aureus required to produce suppuration is not the same for all tissues and all parts of the body. There are also variations in virulence of different cultures of the pyogenic cocci. Inasmuch as it is by their toxic products that the pyogenic bacteria do injury, it is not surprising to find that it makes a great difference in the result, whether or not these bacteria enter the tissues already equipped with a reserve force of this poisonous material, or whether they

must begin the fight unarmed. This matter of accompanying toxines is possibly of great importance in our understanding of the potentialities of the living agents of wound infection. The differences in virulence found to exist between inflammatory exudates from various sources are much greater than those observed in the cultures of the same bacteria on artificial media.

In regard to the conditions in or about a wound which favor the lodgement and development of pyogenic bacteria, it may be said that anything which interferes with the integrity of the living tissues in a wound is a predisposing cause of suppuration. Chemical irritants, such as carbolic acid and corrosive sublimate, favor the development of micro-organisms. A solution of corrosive sublimate as weak as one to two thousand is followed by a distinct line of superficial necrosis. We are not so well informed as to the influence exerted by blood in a wound. Most surgeons lay great stress on hemostasis in surgical operations, while others advise that in certain classes of cases the wound be permitted to fill with blood clot. Is this a source of danger? Fresh blood serum does not possess any such germicidal power over pyogenic cocci as it does over the typhoid and many other bacteria. The power of the living tissues to overcome a certain number of pyogenic bacteria is well recognized, and the tendency of modern surgeons is to respect these tissues more and more. Not to destroy their vital capacities by the unnecessary application of strong chemical disinfectants, not to bruise them, not to make them too intense, not to strangle them, not to suffer the presence in wounds of spaces and bodies which remove bacteria from the influence of the living fluids and tissues.

Of the various ways in which pathogenic bacteria gain access to wounds, that by contact with infected hands, instruments, and other objects, offers the greatest danger. The possibility of infection from the air can not be ignored. Even in wounds treated aseptically or antisceptically it is not uncommon to find bacteria. The skin may have all sorts of bacteria upon it, but in addition it has its own distinct bacteria. After the skin has been thoroughly washed and scrubbed the prevailing organism will be found to be the white staphylococcus. This is often found in parts of the epidermis deeper than can be reached by any known means of skin disinfection. We can now understand how without any flaw in the antisepctic technique of the surgeon, this micro-organism may be found present in wounds, and we have here an

explanation of the frequent occurrence of stitch abscesses, although the inference should not be drawn that the white staphylococcus is the only bacterium concerned in the production of these annoying complications. How much practical importance attaches to the demonstration of this coccus, the author was not prepared to say. The surgeon with good technique, who does not bother himself about this coccus in the deeper layers of the skin, is not likely to be severely punished by the behavior of his wounds. Those who put in drainage tubes and other extraneous substances will have to consider it. Some surgeons on the basis of researches on the bacteria of the skin have abandoned skin sutures. The edges of the wound being brought together by subcutaneous sutures.

In regard to the methods of surgical antisepsis, it was said that the conditions for efficient chemical disinfections have been found to be far more complicated than was formerly supposed, and the substitution, wherever applicable, of the simple and certain methods of disinfection by heat is to be commended. Chemical disinfectants still have their place for many purposes in the operating room, but their place is not in healthy wounds. Thorough scrubbing of the skin with soap and water by a sterilized brush removes many of the bacteria but not all, and cannot be regarded as satisfactory means of cutaneous disinfection. Corrosive sublimate accomplishes much less than is generally supposed. The best results obtained have been by a method in which a saturated warm solution of permanganate of potassium followed by a similar solution of oxalic acid, plays the principle disinfectant role, and this is the procedure now adopted in the gynaecological and surgical wards of the Johns Hopkins Hospital.

CONDITIONS UNDERLYING THE INFECTION  
OF WOUNDS, INCLUDING A DISCUSSION  
OF DISINFECTION WITH REFERENCE  
TO TREATMENT OF WOUNDS, OF  
THE RELATION OF BACTERIA  
TO SUPPURATION, OF THE RE-  
SISTANCE OF TISSUES TO THE  
MULTIPLICATION OF BAC-  
TERIA, AND OF THE EF-  
FECTS OF ANTISEPTIC  
AGENTS ON WOUNDS.

BY ROSWELL PARK, M. D. OF BUFFALO, N. Y.

The study of wound infection is insepar-

ble from that of immunity, and when we have learned that which constitutes or favors immunity, we shall approach nearer to that which is now a *terra incognita*. Immunity is a complex condition not dependent upon any single factor and from pathological interest as well as from clinical importance, our endeavor now must be to analyze the main question of what constitutes or confers immunity, and try to recognize and then solve its various subordinate queries. This statement too is inseparable from another which is to the effect that the surgery of to-day should aim to be aseptic and not merely antiseptic. In other words, we should abolish sepsis and not merely aim to antidote it or conquer it when present. The condition of sepsis is a complicated one consisting of a poisoning by ptomaines, toxines and albumoses having widely different properties. Some of these substances are so antagonistic that one may neutralize the other. In the intestinal canal there are produced poisonous substances which are taken up by the absorbents but then are filtered out by the liver before reaching the systematic circulation. It is by virtue of this depurative action of the liver that many cases of septic intoxication in surgical patients are avoided. In a division of the general subject of blood poisoning, a condition which may be called intestinal toxæmia or intero-sepsis, deserves a distinct place. This occurs not infrequently and may merge into a condition of sapremia or septicæmia, but if promptly checked there is a speedy return to a desirable condition both of wound and patient. By no means do all cases of surgical sepsis have their origin in or about the wound.

We have learned a little in reference to the antagonism of different bacteria and the poisons which they produce. A microbe may enter the system and produce a proteid or albuminose, poisonous to the animal while the introduction of some other substance may neutralize this poison and save the animal. The principle is the same whether the antidotal poison be injected as such or a second species be inoculated by which it may be produced. Brunton has suggested that blisters do good in this way, by an endermic administration of proteids derived from the blood, but so altered in their passage from the vessels as to have a different effect, and probably by their chemotactic properties. He also suggests that bleeding may act in a similar manner as it has been shown that the abstraction of venous blood causes an absorption of proteid matters from the tissues and these may have an action of their

own on the tissues with which they come in contact. The benefits of free purgation probably find here their proper explanation.

The term chemotaxis to which reference has been made, relates to that faculty possessed by all motile bacteria, of moving towards or away from certain substances which seem to attract or repel them. The same power is inherent in the plasmodia of myxomycetes as well as in various other unicellular organisms and leucocytes if not other cells of the human body possess the same property. Chemotaxis is spoken of as positive or negative as there appears to be attraction or repulsion. Among the most actively positive chemotactic substances are cultures of bacteria. These are powerfully attracted by the leucocytes. The effect is the same whether the cultures are alive or have been killed by boiling. The active agent is some product of the life and growth of the bacteria. The leucocytes thus attracted act as scavengers for the surrounding tissue.

These facts have an important bearing upon questions which vitally concern the surgeon. In the light of these researches, it is difficult to see how the possibility of phagocytosis can be denied and the impossibility of this process looms up in a flood of light when one discusses the phenomena of suppuration or of other kinds of infection as well as of recovery or immunity therefrom. Support of the phagocyte theory has come from the work of Hankin on defensive proteids. From the spleens and livers of various animals he has isolated the proteid which has the power of killing bacteria and he has found that this, while absent from normal blood could be obtained from the blood of febrile animals.

The separation of dead and dying matter is a process in which the formation of proteid material figures largely. An important bearing of these facts is on the use of so-called antiseptic agents. The ideal antiseptic is probably blood serum, its parasiticide properties being in all probability connected with the existence in it of a globulin which is soluble only in a weak solution of common salt. This may explain the well known antiseptic action of common salt.

It has been stated that by no means all the sources of sepsis concern the wound itself. The other principal sources of infection may be classified as follows:

1. Previous long existent toxæmia as syphilis, diabetes, acetonæmia, lithæmia, alcoholism, malaria.
2. Previous anatomical changes which

reduce vitality, as inherited diatheses, old age, amyloid change, chronic and acute nephritis.

3. Recent or acute toxæmia, as uræmia, typhoid, intestinal toxæmia, stercoral toxæmia.

4. Other acute conditions as starvation, scurvy, anæmia.

5. Conditions of environment, as bad hygienic surroundings.

6. Effect of anæsthetics.

7. Effect of antiseptics.

Antiseptics may favor infection in more than one way, mercurial and iodoform poisoning are not uncommon. With this established the case becomes one of acute toxæmia. The wounds may fail to unite and suppuration may occur again, the chemical reaction between the vital fluid and the antiseptic, may cause a loss of the properties of the antiseptic agent while the tissues on which it acts may have their constitution so changed as to favor rather than resist infection. Investigations make it appear best to keep all antiseptic agents away from absolutely clean, fresh surfaces. The value of blood serum as an antiseptic has been abundantly shown. This will be poured out in quantity sufficient to serve not only as a cohesive but as an antiseptic agent. The question here arises as to what is the best antiseptic. It would appear that for most purposes peroxide of hydrogen is the ideal antiseptic as it not merely destroys living organisms but by oxidation of undesirable and infected material acts as a scavenger of the tissues. We however, have yet to learn how to utilize to the fullest advantage the properties of blood serum.

Direct infection may be of two varieties, self or auto-infection and contact infection. The principle sources of contact infection are as follows: 1. Skin and hair. 2. Instruments. 3. Sponges or their substitutes. 4. Suture materials. 5. The hands of the surgeon and his assistants. 6. Drainage materials. 7. Dressing material. 8. Miscellaneous drops of perspiration, an unclean irrigator nozzle, the nail brush, the clothing of the operator, or bystanders, etc.

The best plan of sterilizing the skin is shaving, followed for a day or two, if there is time, by some antiseptic ointment properly prepared. The skin should then be washed with *sapo viride* of the German pharmacopœia with five per cent. sol. of *lysol* or hydro-naphthol. Then there should be worn until the time of operation a compress wet with some liquid, non-irritating, antiseptic such as *creolin*, *lysol*, (five per cent.) or hydro-

naphthol in saturated cold aqueous solution. At the time of operation there should be a final scrubbing with hydro-naphthol soap with shaving and then the skin washed with equal parts of alcohol and ether, or alcohol and turpentine. Where there is not time for this we must content ourselves with the thorough use of the nail brush, the razor and antiseptic soap with the subsequent use of alcohol and ether.

Instruments are best prepared by dry sterilization as this injures them less than other plans.

In regard to sponges there is nothing to be added to the well known directions. It would seem better to use some cheap absorbent material which after use could be thrown away.

Silk is best sterilized by placing it in a test tube, then plugging and keeping for an hour in a steam sterilizer upon two different occasions. Silk-worm gut may be prepared by immersion for a few hours, in a one per cent. aqueous solution of corrosive sublimate and then preserving in alcohol. Cat gut is best prepared by immersion in benzine or ether to remove fat. It is then dried and soaked for one or two days in a one per cent. watery solution of corrosive sublimate after which, it is dried and transferred to oil of juniper berries, and from this to strong alcohol containing one permille of sublimate. In this, if desired, it can be boiled. It may be chromicised before putting in the oil of juniper.

The hands even after having been in contact with septic matter, may be sterilized by the following method: Wash with soap and water, using nail brush. Then wash the hands and arms with flour of mustard as though it were powdered soap. This will remove all odor. Then wash with *sapo viride* [G. P.] to which has been added five per cent. of *lysol*, *creolin* or hydro-naphthol. Then rinse and immerse in a strongly colored solution of permanganate of potassium. They are then rinsed and immersed in a solution of oxalic acid, sufficiently strong to decolorize the skin in two or three minutes. The oxalic acid is rinsed off and the hands may be considered aseptic.

Drainage is probably required only in septic or infected cases.

After an ideal aseptic operation, we need only a sterilized and a protective dressing. In some cases there may be advantage in impregnating the dressing with some antiseptic.

Among miscellaneous sources of infection may be mentioned the use of an unguent

applied to the skin to prevent the adhesion of dressings. Experiments have shown that ointments made with even ten per cent. of resorcin or naphthalin without the application of heat contain bacteria. The same ointments heated to the temperature of boiling water seem to be sterile and to suffer only from air contamination.

Dr. Park presented the following conclusions:

1. Study of wound infection and of the septic condition thereby produced is inseparable from a study of what constitutes immunity.

2. By a study of immunity is furnished the best clue to a due appreciation of the principles of asepsis.

3. The surgery of the future must aim to be aseptic, for so far as fresh cases are concerned we have passed the merely antiseptic era.

4. Asepsis is to be achieved not alone by attention to the wound and the paraphernalia of operation, but by the closest regard to the condition of the patient's organs and tissues.

5. Sepsis may arise from circumstances and conditions other than those pertaining to the wound itself, although hitherto, practitioners have been too prone to scan solely this field when searching for its cause.

6. Sepsis and infection are combated in more than one way by natural agencies and by inherent properties of cells and fluids totally aside from the measures which the surgeon institutes, and the wisest man is he who studies to take advantage of these vital activities rather than introduce new and conflicting elements from without.

7. A recognition of the power of chemotaxis possessed by organized and unorganized materials in such varying degree, can be utilized to great advantage so soon as it can be reasonably and clearly defined.

8. A study of chemotactic activity appears to impress one with the truth of the phagocyte doctrine which if proven, is one having a large bearing upon the principles as well as the practice of the surgery of the future.

9. The proteid material contained within, and cellular infectious organisms, both play such a role in causing chemotaxis as well as in poisoning the animal infected, that we have reason to eagerly welcome all knowledge concerning it.

10. So fast as such proteid material can be isolated, we need among other things to study its effect upon the commonly used antiseptic agents.

11. We need to study much further the

anti-toxic and bactericidal properties of human blood serum and the means by which we can avail ourselves of the same.

12. Some such classification as I have attempted to give of the various causes of lowered resistance to infection, or of the causes of vulnerability or susceptibility, will certainly assist in a due appreciation thereof, and will often aid in so fortifying the patient that he may resist infection to which he would otherwise succumb.

13. The condition of enterosepsis, faecal toxæmia, sterco-ral intoxication, or whatever it may be called, is certainly one which every practitioner has to fear and against which he should assiduously guard. It is not sufficiently recognized and combated.

14. A sub-form of this condition might justly be made and entitled gastrosepsis, comprising cases where defective stomach digestion, often from dilatation, brings about a lithæmic or other toxæmic condition which favors infection.

15. Antiseptic agents in the past have worked a revolution in surgical practice and results. We have now reached a time when we know they all have their disadvantages, and also understand how, if we are strictly antiseptic in our work, we can afford to discontinue their application to wound surfaces.

16. But the insurance of aseptic character of such work, necessitates the use of antiseptic agents of some kind upon everything which may directly or indirectly come in contact with their surfaces.

17. When this work is strictly aseptically performed, the use of drains or further employment of antiseptics, is either an expression of mental uncertainty or of fear. It may be in the interest of humanity, undoubtedly it often is, but it is not attaining the ideal of scientific work.

Dr. Arthur I. Cabot, of Boston, referred to the debt which practical surgeons owed to the scientific workers. It is the knowledge of how to obtain aseptic  *vivo* wounds that has revolutionized surgery. Reference was next made to the phagocytic action of the cells and to the germicidal action of the blood serum. The only question is as to which of these processes is distinctly destructive. The bactericidal action of the blood serum has been proved. These observations may serve to explain some of the phenomena in wound fevers. It may be that in erysipelas, the irritation set up by the application of blisters, iodine, etc., may serve to limit the spread of the disease by the action of the blood serum on the micrococci of the disease.

In treatment of wounds it is desirable to avoid placing animal sutures in the wound. It is better to close all spaces in the wound by pressure. He had found by culture experiments that where the skin prior to the operation was free from organisms, yet at the close of the operation their presence could be demonstrated showing that bacteria had been sown on the wound by the air or otherwise. If necrotic tissue or animal sutures be present, they might constitute a nidus for the development of the bacteria.

Mr. Thomas Bryant, of London, said that if bacteria are the seed, we must remember that the soil is not of less importance. If the soil is not suitable for the growth of the seed it will not grow. No surgeon would operate on a patient except in a case of urgency until the subject had been prepared for operation. In order to prevent the entrance of the germs, irrigation is of service. For this purpose iodine water made by adding a few drops of the tincture or solution of iodine water, is the most valuable. This may be made of a light cherry hue for clean wounds, and of a dark cherry for dirty wounds. It also acts as a good styptic. As a dressing he uses wood wool. The wound is dusted with iodol, one to five parts of boracic acid. In every operation there is a certain amount of molecular death, and drainage is required for thirty-six hours. Pressure is better than deep sutures for bringing the deeper parts of the wound in contact.

Dr. Harold C. Ernst, of Boston:—While it is true that nearly all forms of suppuration are attended by bacteria, yet it has been shown that a process answering to suppuration can be produced without the action of bacteria. The products of this suppuration however, do not produce activity when introduced into other animals. It has been shown that some of the agents used to destroy bacteria, really favor their growth by diminishing the chemotactic power of the surrounding tissue cells. Notwithstanding laboratory experiments show the possible occurrence of chemical suppuration, it shall remain to be demonstrated that the infection of wounds as seen in practice, occurs without the influence of bacterial activity. The most important lessons taught by investigations in this subject are those which warn us that our pupilage is not yet over, and that we are but entering upon the first stage of our knowledge of the processes spoken of here to-day.

Mr. John Chiene, of Edinburgh, said that he had assisted Professor Lister during the

whole of his time in Edinburgh. The longer he lived the more he believed in the work of Lister and the impress he had made on surgery. He considered the bacteriological investigations as of the greatest importance, for on these the surgeon must depend in his daily work. Lister long ago spoke of the antiseptic value of the blood clot. But long before John Hunter pointed out the value of the blood clot, the speaker considered that the spray was of great service. The term "integrity of the tissues" had been used by both speakers, but John Hunter had also laid stress on the "vitality of the tissues" which he defined as "the power of the tissues to resist putrefaction." He thought that not only by improving the soil but by destroying the plant, the best results would be attained.

Dr. Arpad G. Gerster, New York, spoke of the many sources of contact infection and referred especially to infection, the result of bad habits on the part of the surgeon. The surgeon may carry out all details of aseptic and antiseptic treatment and yet nullify all by a habit he may have of rubbing his nose, his hair, or his face, or as the speaker had seen, placing the knife in his mouth that he might use his hand. An important point in the prevention of infection is clean dissection with the knife without tearing or bruising the tissues. In regard to irrigation and drainage he said that this could be eliminated only where the surgeon was absolutely certain of his asepsis and thought it dangerous for the general practitioner to discard drainage. If he is not certain of his asepsis he should cling to the older methods, and from these he may ascend to the highest pitch of skill when he can work with real asepsis.

Adjournment of Tuesday afternoon.

TO BE CONTINUED.

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#### SPECIAL CORRESPONDENCE.

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#### PARIS LETTER.

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The recent discussion at the Academy of Medicine, of the causes of the feeble population of France, reminds us that the Malthusianism of to-day (neo-Malthusianisme) is a question to be carefully considered, as it strikes at the very life of nations. In the beginning of this century Mr. Malthus, a famous political economist, predicted eventual starvation for the human race unless

artificial checks to population were introduced. Now our scientists fear depopulation unless these checks are removed or regulated. An investigation proves that the feeble population of France is not due to the mortality of the new-born, but to a diminution of the desire on the part of women to assume the responsibilities of maternity. I am aware that I am touching upon questions around which the over-sensitives have thrown a veil, which no one has dared to lift, and, for the present, I must say, "Rest in peace," and write of other matters. "L'affaire du Cancer" has caused considerable comment. The President of the Society of Doctors and Surgeons of the Hospital at Reims, who was called upon by the President of the Administrative Committee of the Hospitals of that city, to investigate the truth of the public rumors concerning the "cancer affair" has handed in his report. The members of the Society hesitated to accept such a mission, but considering the articles that had been published—M. Dryer's letter, the Mayor's communication to the Municipal Council—they did not think it possible to avoid it. From the depositions of seven eye witnesses it appears that:

1. Doctor E. Dryer inserted pieces of a cancerous tumor of the breast, which he had just removed, into the opposite breast by means of an incision, which he made with a bistoury, and united said incision by means of sutures.

2. These fragments had not been submitted to any of the usual manipulations supposed to be capable of attenuating their virulence.

3. The fragments or "grafts" were introduced while the patient was still under the influence of chloroform.

The Society, once in possession of this information, requested M. Dryer to appear before it and explain. He at once declared himself, by letter, unable to accede to this request. The Society was thus forced to refer to M. Dryer's letter, in which three of his assertions in no way agreed with the depositions. He affirmed that the fragments had been submitted to manipulations, which had the effect of attenuating their virulence, that they were introduced with the idea of sparing the patient the pain of an operation.

The witnesses were unanimous in declaring that the patient had just been operated upon, with the exception of one, who did not know the origin of the inserted fragments; the others affirmed that the pieces were taken immediately from the extirpated tumor and without previous attenuation introduced on

the spot into healthy tissues. With this evidence, the Society declared that M. Dryer had made, in the Hotel Dieu de Reims, an operation which constituted a veritable cancer graft, and at once proceeded to examine the question of responsibility. In his letter of August 1st, M. Dryer took refuge behind Doctor Dicis. The Society decided that at this time M. Dryer was a *Doctor*, and performed the duties of Chief of Clinic. These titles, says the report, are sufficient to render a surgeon responsible for his acts. The affair was then placed in the hands of the Prefect of the Maine, who has transmitted the documents concerning the affair to the Minister of the Interior. The history of experimental medicine records nothing more revolting, and it is a shame that the mantle of our noble profession should rest upon the shoulders of one so far removed from that ideal, erected by Hippocrates and inculcated by the physician's oath—but

*"telle est la vie."*

M. J. Lucas, Championnière at the Académie De Médecine, Seance, 25th of August, gave an interesting report of his operations for the radical cure of hernia without strangulation. Since 1881, he has made 254 operations, having lost but two cases; 222 of these were inguinal, 205 were men, 59 congenital. He states that among the inguinal hernias the congenital variety gives the most satisfactory results, his operations for umbilical hernia have, however, given him the most striking results. He considers the danger run by patients submitting to this operation very small, but makes a few reservations. He does not advise the operation for very young children—for subjects over 40, except in the presence of pressing indications. In general he would operate upon all subjects wishing to dispense with a bandage, those whose labors demand it, those whose social position would be benefited by the disappearance of the hernia.

In case of military service, of marriage, etc., etc., he makes an exception for diseased and cachetic subjects—those possessing such weak abdominal walls that hernias become multiple. He states that congenital, inguinal hernia should be operated upon *without exception*, especially if it be accompanied by some testicular ectopia.

Lysol, the new antiseptic, is used to a small extent here. Koch recommends it in a recent article, stating that it is superior to Creolin.

We have a vacation now, and, as I am

anxious to visit the School of Hypnotists, at Nancy, I will write my next letter from that city.

LUCIA REDDING THOMPSON, M. D.,  
Paris, France.

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### SELECTED FORMULÆ.

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#### CARBOLIC ACID AS A LOCAL ANÆSTHETIC.

Dr. C. T. Meacher, in *Items of Interest*, an American Dental journal, suggests a 5 per cent. solution of carbolic acid in water as a local anaesthetic that is safe and reliable. Four or five drops should be injected under the gum on each side of the tooth to be extracted. He says in most cases this is effective, and where inflammation exists around the root the action is most satisfactory. Dr. Meacher thinks that with moderate care there need be no fear of constitutional symptoms arising, considering the small quantity used. M. Viau of Paris, who read a paper on the subject before the Société d'Odontologie in 1886, expressed his opinion that it was of quite as much power as cocaine, and did not produce any dangerous symptoms.—*Lancet*.

#### THE SALICYLATE AND THYMOLO-ACETATE OF MERCURY IN SYPHILIS.

Dr. Dzadek (*Med. News*) has employed intra-muscular injections of salicylate of mercury in a long series of cases of secondary and tertiary syphilis, and always with most satisfactory results. The solution used was as follows:

**B:** Hydrg. salicylatis.....gr. xvij—xxiv.  
Mucilag. gummi arabici.....gr. viij.  
Aqua destillata.....f3væs.  
M. ft. suspension.

Of this, one Pravaz syringeful ( $m$  xv) was injected at a time; this was repeated at intervals of three days. He selected the gluteal region as a site for injections. The time during which the cases were treated varied from three weeks to two months. The therapeutic value of the salicylate of mercury was especially remarkable in syphilitic affections of the skin and of the mucous membranes; syphilitic eruptions and slight relapsing forms yielded to the treatment in from two to four weeks. The local reaction was slight—even less than after the use of calomel and of the yellow oxide of mercury. In no case did an abscess form, either at the point of injection or in its vicinity. Infiltrations were rare, and the more pronounced

symptoms of mercurialism did not develop.

He has also with advantage used the thymolo-acetate of mercury in several cases of syphilis. The formula of the aqueous suspension to be injected is as follows:

**R:** Hydrg. thymolo-acet.....parts 1.5.  
Mucilag. gummi arab.....parts 0.5.  
Aqua destillata.....parts 20.  
M. ft. suspension.

The injections of a seven per cent. suspension of the drug were made at intervals of three or four days. From six to ten injections suffice in most cases of recent and non-inveterate syphilis. He has especially observed the therapeutic value of the treatment in the early stages of the disease. Syphilitic roseola and the papular affections of the mucous membranes yielded after from four to six injections, or in from twelve to twenty days; the relapsing syphilitides, after from two to four injections; the papular cutaneous forms and the ulcerative affections of the mucous membranes after from six to eight injections, or in from fourteen to twenty-five days; the pustular and tubercular affections of the skin required a larger number of injections. This method of treatment occasioned little pain; in no case did an abscess or considerable infiltration develop. During the last two years he has not encountered, as a result of the toxic action of mercury, disturbance of the digestive organs, of respiration (embolism) and circulation, or any general disorder of importance.

#### CANTHARIDES IN CARCINOMA.

Wolfer (Norsk Magazin for Lægevidenskaben, No. 7, 1891), in a case of previously operated and recurrent carcinoma of the left mamma, of the size of a walnut, cautiously administered, after extirpation of the node, the following:

**R:** Tinc. cantharid. } aa gm. 5. (f3ijss).  
Vin. camph. } Mucil. gummi. arabic. gm. 20. (f3ijv).

The cancer did not recur, the patient married again, bore two children, and still lives.

In 1879 the writer treated a case of carcinoma of the pharynx, with cachexia. Under the use of cantharides the symptoms not only were ameliorated, but the growth did not increase in size, the patient's strength returned, and the patient continued well. In 1880 he operated on a woman for a large carcinoma of mammary gland. The same treatment was instituted. The patient still lives free from any recurrence.

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## LEADING ARTICLE.

### ANÆSTHETICS IN OBSTETRICAL PRACTICE.

The value of anæsthetics in cases of other than normal labor is no longer a matter of dispute or a questionable practice. The benefits derived from their employment in such instances are manifold and patent to every obstetrical attendant. As to the propriety, however, of assuaging the sufferings of a woman in an ordinary case of normal labor, there is by no means a unanimity of opinion.

In the discussion on anæsthetics at the meeting of the *Medico-Chirurgical Society of Glasgow*, session of 1890-91, in the published report, edited by the secretary, J. Walker Downie, M. B., F. F. P., etc., we find two interesting papers upon this topic, from which we make some extracts.

The first paper:—"Anæsthetics in Relation to Midwifery," was discussed by Dr. William L. Reid.

The speaker confined his remarks to the two main anaesthetic substances—chloroform and ether. Regarding the relative value of these agents in labor and operative midwifery, he considered them as both equally valuable in securing thorough anæsthesia, subject, however, to the restrictions to be made in the ensuing remarks. Referring to the mode of chloroform administration, he preferred a single ply of flannel on a small wire frame, upon which the anæsthetic was to be used with a drop bottle. With these agents, a mild anæsthesia can be readily kept up, and rendered more profound in the

course of a few minutes if occasion should require it.

For ether administration, he deemed the only safe plan the employment of a Clover's inhaler or some similar instrument.

Dr. Reid usually examines the heart before giving an anaesthetic, but the knowledge that heart disease exists, only makes him the more anxious to use chloroform or ether, because he thinks that in such cases the strain of labor is vastly more dangerous without an anaesthetic than with it. The same fact, he holds as true in patients with diseased kidneys.

In twenty-five years' experience with anaesthetics in midwifery practice, he had never seen a fatal issue; in fact, he had never even seen a woman in danger from the effects of these agents. In the major portion of his cases he had resorted to the employment of chloroform.

In his opinion, a lying-in woman is peculiarly fitted for escaping the dangers usually connected with the ordinary production of anaesthesia. The following causes seem to Dr. Reid to account for the great rarity of fatal results in obstetrical anaesthesia:

The left ventricle of her heart is considerably hypertrophied, and so, less likely to weaken readily in its action.

2. She is kept in the recumbent position, and so, to that extent, defended from syncope.

3. The action of the heart is aided by the alternate relaxation and contraction of the uterus.

4. The anaesthesia tends to produce anaemia of the brain, whereas the labor pains give rise to engorgement of that organ.

In reference to the assertion that chloroform may kill the parturient woman by inducing post-partum haemorrhage, the speaker from his experience was inclined to the belief that there is some truth in this view, but he also thought that the danger could be averted by the hypodermatic injection of ergotin, and by manual compression of the uterus.

Referring to the use of chloroform in labor, as being dangerous to the fetus, inasmuch

as it might be born so deeply under the influence of the drug as to be incapable of resuscitation, Dr. Reid thinks that he has good grounds for believing that, contrary to what one would most readily suppose, the child suffers but little risk from this cause. Why, with chloroform vapor circulating in the blood of the mother, the fetus should not be in danger from the use of the drug, he is not able to explain satisfactorily. He mentions the fact that he has seen children born and cry lustily after a few seconds in cases where the mother had been deeply under chloroform for at least an hour, and, on the other hand, he has never seen a child born dead under circumstances in which he could reasonably attach blame to the use of the anaesthetic.

The conclusions reached by Dr. Reid regarding the use of chloroform and ether in midwifery are as follows:

1. In severe labor and ordinary operations he is content to use chloroform, in view of its convenience and safety under these circumstances.

2. In long and severe operations, especially when there is much loss of blood, he prefers ether, given by means of Clover's inhaler. This involves more trouble, but its probable greater safety ought to turn the balance in its favor.

3. He believes that it is advisable to have several medical men present when an anaesthetic is given, but thinks that it would be wrong to enforce this by law. [This remark of Dr. Reid is rendered necessary owing to the proposed enactment of a law in Scotland compelling the presence of two additional medical men, when an anaesthetic is to be administered. This question was put to a vote at one of the meetings of the *Medico-Chirurgical Society*, of Glasgow, which meeting was largely attended by representative men of the profession in Glasgow and the West of Scotland, and it was unanimously agreed "that no such legal enactment was required, and were any such law enacted it would in many cases be prejudicial and even dangerous to the patient."—ED.]

The only other paper read at this meeting

upon the subject under consideration, was by Dr. Samuel Sloan, its title being, "Anæsthetics in Obstetric Practice."

In this paper, the author states that the more experience he has had with chloroform in obstetrical practice, the safer and the more valuable has he been led to consider it. He now administers chloroform, to the *obstetric degree*, in nearly every case of confinement. The length of time the patient is kept under its influence depends largely on the nature of the case. He has kept a patient seven hours under it. The method he uses is to pour a few drops of chloroform on a clean handkerchief which has been crushed and placed in a dry tumbler. This is held near the patient's mouth. Occasionally he allows the patient to hold it at first, partly to give her confidence; usually it is held by the nurse.

If the patient is in the second stage of labor and the pains are almost continuous, the chloroform is administered almost incessantly, but it is not given to the surgical degree; this being reserved for only serious and prolonged operations. Dr. Sloan states, in fact, that in what may be called minor obstetric operations, such as the application of the forceps at the outlet, or low in the cavity of the pelvis, he is in the habit of removing the chloroform entirely before beginning such operations, because the muscles are apt, under this degree of chloroform influence, to be rigid, and the patient whilst sufficiently under the drug to be free from conscious pain, is not sufficiently under it to be passive, and is yet too much under its influence to be able to control her movements. Chloroform in such cases, he thinks, is more of a hindrance than a help, bringing on reflex spasms of the vagina and hysterical restlessness as soon as the necessary manipulations are attempted. Dr. Sloan does not think that the patient suffers much by this withdrawal of the anæsthetic, since he finds that though no more chloroform is administered, the first time the patient fully recovers consciousness is when she hears the child cry. He never examines a patient's fitness for chloroform.

Given to the extent as above, he has never witnessed a single case of after mischief attributable to the anæsthetic, not even a single case of sickness. He considers the recoveries more likely to be good than the reverse where chloroform has been *judiciously given*.

The two papers thus fully quoted express the views of our foreign colleagues upon the subject of anæsthesia in labor.

Here in this country, the leading obstetricians do not deem it essential to make it an invariable rule to administer an anæsthetic in every case of labor. They agree, that whenever painful or harassing complications arise which are liable to prostrate the patient and protract labor, an anæsthetic is indicated. Among such indications which call for the use of these drugs may be mentioned an unusually firm or resisting perineum, muscular spasms, œdema, a relatively large foetal head or a relatively small pelvis, a vaginal cicatrix, a vesical calculus, a rigid os uteri, or an unusually sensitive nervous system, ill calculated to bear pain. In such instances an anæsthetic will not only shorten labor, but will prevent undue shock which would be sure to lead to profound prostration. It seems to us, therefore, that anæsthetics should at least be employed in all states of labor in which painful resistance to expulsion is encountered, or in which pain is unusually severe.

In unnatural labor—that is, a parturition which, if left undisturbed, would not terminate favorably either to the mother or child—the propriety of resorting to these agents cannot be disputed.

In fact, there seems to be no good reason why anæsthetics should not habitually be employed in cases of labor.

#### CORRESPONDENCE.

##### EXOSTOSIS OF THE ROOT OF LEFT LOWER DENTES SAPIENTÆ.

TO THE EDITOR OF THE MEDICAL AND SURGICAL REPORTER:

A gentleman called at my dental office suffering from violent shooting pains in the

left side of the face and neck owing to a badly decayed tooth, which had previously been filled with amalgam filling, and which was removed by the advice of his physician. This gave him little or no relief. Finally he decided to have the tooth extracted. I applied all the necessary power that is required in the extraction of these teeth, which extract easily, owing to the space left for their development. After making my diagnosis, I excised through the alveolus and extracted the tooth, having three well-defined roots, but all had become exostosed. The hemorrhage after the extraction was quite profuse, which in this case was a benefit. I syringed the cavity with carbolic acid (15 drops to an ounce of water) and plugged the cavity with absorbent cotton, saturated with the same solution, which I instructed him to remove after each meal and apply a new plug the same as I did. The next day he complained of a great deal of pain that soon subsided, and in a very short time the part came together very nicely. I have seen many cases of exostosis and I am of the impression that this condition is most marked in the lower teeth.

C. H. M. NEALL, M. D., D. D. S.

#### A LAW CASE.

TO THE EDITOR OF THE MEDICAL AND SURGICAL REPORTER:—At a meeting of the Greene County Medical Society on the 8th inst. the following resolutions were adopted:

*Resolved*, That we endorse the action of Dr. J. T. Ullom, chairman of the registration committee of this society, in arresting Dr. J. J. McClelland for violating the law relating to the practice of medicine and surgery in this county.

*Resolved*, That we hereby authorize the committee to take such steps which in its judgment may be necessary to enforce the law.

The grounds upon which the arrest was made, and which are admitted by both parties to the suit are as follows: One, Dr. McClelland of Columbus, Ohio, after advertising extensively in the county papers and otherwise has been making monthly visits to Waynesburg, this county, for the purpose of practicing medicine and surgery, and had prior to his arrest practiced to some extent at the above place in accordance with this advertisement.

An examination of the medical register showed that he was duly registered, but upon further examination of the records it was found that he had not in addition thereto

procured a license as required by the Act of Assembly of 1877 relative to "itinerant" practitioners. The defense will claim that the whole of the act of 1877 was repealed by the act of 1881, and that the section of the act of 1877 requiring "itinerants" to take out a fifty dollar license is not, therefore now in force.

The act of 1881 makes no specific provision for "itinerants," but the tenth section reacts: "that all acts or parts of acts heretofore passed, and inconsistent with this act, be and the same are hereby repealed." The prosecution will claim that the section of the act of 1877 requiring "itinerants" to pay an extra license of fifty dollars is *not* "inconsistent" with the act of 1881, and is therefore in full force.

Drs. Ullom, Brock and Millikin compose the registration committee and they have been assured by the county commissioners that the latter will co-operate with the committee in full force.

While the case will, of course, go before a jury, the question to be decided is really not one of fact, but simply a question of law, which so far as I know has not been passed upon by the courts.

If the Greene County Medical Society finds it necessary to take the matter to the higher courts, the Pennsylvania State Medical Society will, I have no doubt, come to our assistance if called upon.

J. L. MILLIKIN, M. D.,  
Cor. Sec'y. Greene County Medical Society.

#### BOOK REVIEWS.

INTERNATIONAL CLINICS. Vol. II. July 1891. J. B. Lippincott Co., Phila.

In general appearance of make up and divisional arrangement, the second volume of International Clinics follows that of the initial number. The general practitioner will, however, without doubt be rejoiced to find that the lectures presented in this volume, deal rather with the more common forms of disease as met with daily in an average practice, and that the unusual and rare text-book diseases, so many of which were discussed in the previous issue, have not entered its pages. While the latter are instructive and of much interest to many, we take it that the journal will find its widest range of usefulness in teaching the latest and best methods of combating diseases which are less unique.

The opening pages are devoted to a brief

biographical sketch of the late Joseph Leidy, M. D., a very good portrait of whom appears as a frontispiece.

In the department of medicine the first lecture is upon "Ulcerative Endocarditis" from a clinic by Dr. Wm. Pepper. The lecturer presents very full histories of two cases of this disease, tracing them with their various symptoms through their successive stages until death ensues. The records of the *post mortem* examinations are exceedingly full and instructive. The article is illustrated with well executed colored plates which show both the primary heart lesions and the secondary involvements of kidneys and spleen. Culture tubes with their growths in various stages of development are also depicted.

A lecture by Dr. Jas. C. Wilson upon "The Treatment of Typhoid Fever by Systematic Cold Bathing," detailing the results arrived at by this method of treatment (without the administration of medicines) in the German Hospital in Philadelphia, is highly interesting. The apparatus used and the method of preparing and administering the baths is described at length. During a service of 16 months, Dr. Wilson and his colleagues have thus treated 160 cases of typhoid fever, with the remarkably low mortality of 7 cases, less than 5 per cent. The patients so treated were not picked cases selected for an experiment by this method, but were just taken as they presented themselves at the Hospital for admission. The lecturer claims for this treatment—and his results certainly bear out his claim—that it is superior to any other yet used in typhoid fever.

Dr. Arthur Ernest Sansom of the London Hospital contributes an interesting lecture upon the "Pathology of Angina Pectoris," in which he carefully traces out the causes of that dread affection.

Dr. James Tyson in his lecture upon "Chronic Diffuse Nephritis" gives a full résumé of the latest knowledge regarding this disease, with very full directions as to its treatment. The significance of tube-casts of various kinds is thoroughly explained.

Dr. J. M. Anders' lecture upon "Lead Colic" is illustrated by a photograph of his patient in which the "wrist-drop" resulting from paralysis of the extensor muscles is excellently shown.

A clinic upon the "Permanent Cure of Hernia in the Groin" by Dr. Tiffany, of Baltimore, leads us into the department of surgery. The usual methods of suture of

the ring and obliteration of the canal and sac are advised.

Dr. John Ashurst, Jr., contributes a clinic upon the methods of performing many of the rather more difficult but still rather common operations of the present day. He discusses the operations of "Removal of the Breast for Scirrhus; Stretching of the Sciatic Nerve; Excision of the Head of Femur; Haemorrhoids; Finger Amputations; &c., &c." Many practical suggestions as to diagnosis, causes, and treatment of the different lesions for which the above operations are to be performed, are given and the steps of the various operative procedures are carefully set forth.

As the removal of a scirrhus the lecturer advises thorough cauterization of the whole exposed surface with a solution of zinc chloride. This following thorough removal of the cancerous mass enables one to give a more favorable prognosis, though the author believes the disease sooner or later will return. Nerve stretching is often successful in relieving obstinate neuralgia when all other measures fail. Especially it is better than resection of a nerve, which latter causes paralysis. Dr. Ashurst advises excision of the head of the femur when it and the acetabulum are carious and after the means in an earlier stage, for bringing about ankylosis, have failed. The result is a shortened but useful leg.

In a long lecture by Dr. John B. Deaver delivered at the German Hospital in Philadelphia, among other operations detailed are those of tracheotomy for cut-throat with a wound of large extent and an account of Wyeth's amputation at the hip-joint. But cases recovered and their treatment is fully described.

In the department of gynaecology and obstetrics, Dr. Palmer details the general management of confinement cases at the Cincinnati Hospital at some length and also presents a concise tabulated series of results since 1881.

Dr. W. Gill Wylie of New York follows with a lecture upon that troublesome disease "Endometritis." Its etiology is carefully considered and its treatment fully outlined.

J. Bland Sutton, F. R. C. S., of Middlesex Hospital contributes a carefully elaborated study in a clinic upon "The effects of double Ovariectomy and Oophorectomy upon the Secondary Sexual Characters of Women." Dr. Sutton after very extended investigation concludes that—no unusual secondary sexual

characteristics develop; that atrophy of the breasts and obesity, regular menstruation, loss of sexual appetite and the existence of great physical change, is by no means a constant but rather an unusual sequence to these operations.

"Habit in Reference to Sleep and Sleeplessness" by Macfarlane of Glasgow, and a case of "Compression of the Spinal Cord due to Fracture of the Vertebrae" by Starr of New York are prominent lectures in the department of neurology.

Ophthalmology, dermatology, and otology are represented as before by lectures of Jackson, Duhring and Burnett.

In the present volume thirty-eight clinical lectures covering the whole ground of the practice of modern medicine, divided as it is into its various specialties, from the leaders in modern medical thought and experiment, make this number of the clinics a valuable text-book to all.

## PERISCOPE.

### THERAPEUTICS.

#### IODOLE AND ANTIFEBRIN IN CEREBRO-SPINAL MENINGITIS.

The perusal of Dr. M. I. Krotkoff's paper (see below) has recently induced Dr. Vladimir I. Sübotin, of Balashov, (*Meditsinskoie Obozrenie*, No. 18, 1890, p. 495), to try Iodole and Antifebrin in a severe case of sporadic Cerebro-spinal Meningitis. Like his predecessor, the author obtained truly brilliant results. The patient, a previously always healthy, robust merchant of 18, fell ill on July 30th. When first seen by the writer, on August 8th, the lad was suffering from excruciating headache (especially about the back of the neck), some impairment of consciousness, obstinate sleeplessness, frequent nausea and diarrhoea, anorexia, fever (39.5° C.), photophobia, meteorism, abdominal tenderness. There were also present flushed face, congested eyes, myosis, slow reaction of the pupils, herpetic rash around the mouth, thickly-coated tongue, dry and hot skin, scanty rubeola over the chest and abdomen, weak pulse (95 per minute), and general prostration. During the night there appeared severe bilious vomiting of several hour's duration. On August 6th there supervened aching pain and numbness about all limbs, tenderness of the cervical vertebrae, retraction of the head, and rigidity of

the posterior cervical muscles. On August 7th, the patient's left extremities were found completely paralyzed and affected with cutaneous hyperesthesia, the wrists and fingers contracted. Up to this day the case had been regarded as one of enteric or typhus fever, and treated as such. Cerebro-spinal Meningitis was now diagnosed, and the following combination resorted to:

R. Iodoli purissimi.....0.30 grammes.  
Antifebrin.....0.18 "

M. f. pulvis. D. S.—A powder every three hours.

Besides, the following adjuvant means were ordered: 1. Four Milanese blisters to the back of the neck (2) and mastoid processes; 2. Ice compresses to the vertebral column, below the blisters; 3. Irritant (saline) enemata; 4. A hypodermic injection of 1/2 grain of Morphine (in view of insomnia); 5. Beef and milk, in tablespoonful doses, repeated at short intervals. A steady improvement set in from the beginning. On August 17th, the Iodole powders were discontinued. On August 20th, the patient got up perfectly well.

In the *Meditsinskoie Obozrenie*, No. 17, 1889, p. 389, Dr. Krotkoff, of Saratov, has published two cases of typical Cerebro-spinal Meningitis, referring to girls, aged 4 $\frac{1}{2}$  and 9 years respectively. In the former case, the treatment was commenced on the third, in the latter on the first day of the disease, the little girl receiving 0.05 gramme of Iodole and 0.08 of Antifebrin, the older 0.12 of Iodole and 0.2 of Antifebrin, four times a day. The former was completely well on the twentieth day (of the symptoms), the other on the tenth. Considering the formidable character of the disease in question, one cannot help hesitating to attribute the extremely happy issue of the three cases to the treatment adopted. A more extensive series of clinical experiments in the same direction might elucidate whether the two authors had to deal simply with a happy, but blind, coincidence of the events, or really happened to come across a surprisingly efficacious means of lowering the enormous mortality from Cerebro-spinal Meningitis. — *Merck's Bulletin*.

#### ON THE ABORTIVE TREATMENT OF HERPES BY THE APPLICATION OF EITHER PURE ALCOHOL OR OF AN ALCOHOLIC SOLUTION, AFTER THE METHOD OF PROFESSOR LE LOIR.

The treatment of herpes by applications of pure alcohol or of alcoholic solutions sug-

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gested itself to M. Leloir under the following circumstances. He himself became subject to intermittent attacks of herpes labialis, and it occurred to him to try the effect of an application of Eau de Botot at the moment when the eruption began to make its first appearance. At the end of some minutes, he observed that not only had the pain entirely disappeared, but that the progress of the eruption was also arrested. In three-quarters of an hour the applications of Eau de Botot had completely stayed the herpetic eruption. Since then this remedy, as employed by M. Leloir in both clinical and private practice, has given most remarkable results.

In his inaugural dissertation M. Dupas has further developed the theories advanced by M. Leloir in one of his clinical lectures given at the Hospital St. Sauveur in the year 1885. He proceeds to explain the symptomatology and pathological anatomy of herpes. He next gives a short critical history of the various kinds of treatment practiced for herpes previously to that adopted by M. Leloir. Under the influence of treatment with alcohol, says M. Leloir in his clinical lecture, it will be found that at the erythematous stage of the disease the complete disappearance of the eruption is the rule—and that too, very rapidly—within a few hours, or even less, if the treatment has been sufficiently energetic.

When the herpes has reached the stage of vesication the disappearance of the eruption should take place in a few days at most.

When the disease has reached the period of vesico-pustulation, or even that of pustulation, it will be found that the duration of the eruption is very considerably shortened. The vesico-pustules and pustules subside and dry up with great rapidity. The same remark applies to the congestive inflammation of the surrounding epidermis. With this treatment you may see a violent attack of either ordinary herpes or herpes zoster develop and be completely cured, all in the course of a few days.

Nor is it on the eruptive element only that this treatment exercises a beneficial influence. It may be affirmed in a general way that the pain at the seat of the eruption is always lessened in a remarkable manner, and the same is true in most cases of the neuralgic pains in adjacent parts.

M. Dupas then passes in review the various forms in which M. Leloir makes use of alcohol. At first, about the year 1882, M. Leloir generally employed Eau de Botot or alcohol 90 degrees in strength. In 1884 he used al-

cohol of 90 degrees strength with a slight admixture of carbolic acid, which seemed to him to lessen the burning sensation, and even the element of pain. Since 1885 he has prescribed in succession alcohol of 90 degrees with a slight addition of either resorcin, thymol, or menthol.

The following are some of the formulae preferred by Professor Leloir:

1. Alcohol of 90 deg.,	100 grammes.
Resorcin, pure, . . .	2 grammes (i. e., 10 grains to the ounce).
2. Alcohol of 90 deg.,	100 grammes.
Thymol, . . .	1 gramme (i. e., 5 grains to $\frac{3}{4}$ j.).
3. Alcohol of 90 deg.,	100 grammes.
Menthol, . . .	3 grammes (15 grains to $\frac{3}{4}$ j.).
4. Alcohol of 90 deg.,	100 grammes (or $\frac{3}{4}$ j.).
Thymol, . . .	1 gramme (5 grains).
Resorcin, . . .	2 grammes (10 grains).
5. Alcohol of 90 deg.,	100 grammes ( $\frac{3}{4}$ j.).
Menthol, . . .	3 grammes (15 grains).
Extract of Cannabis Indica, . . .	
	5 grammes (25 grains).
6. Alcohol of 90 deg.,	100 grammes ( $\frac{3}{4}$ j.).
Phenic acid, . . .	25 grammes (about 1 grain).
7. Alcohol of 90 deg.,	100 grammes ( $\frac{3}{4}$ j.).
Phenic acid, . . .	2 grammes (about 1 grain).
Extract of Cannabis Indica, . . .	
	4 grammes (20 grains).
8. Alcohol of 90 deg.,	200 grammes ( $\frac{3}{4}$ j.).
Resorcin, . . .	6 grammes (15 grains).
Hydrochlorate of Cocaine, . . .	
	1 to 4 grammes ( $\frac{1}{2}$ to 10 grains).
9. Alcohol of 90 deg.,	50 grammes ( $\frac{3}{4}$ j.).
Tannin, . . .	6 grammes ( $\frac{3}{4}$ j.).
10. Alcohol of 90 deg.,	50 grammes ( $\frac{3}{4}$ j.).
Tannin, . . .	5 grammes (50 grains).
Chlorhydrate of Cocaine, . . .	
	1 grammme (10 grains).

11. Alcohol of 90 deg., 500 grammes (Oj).  
 Extract of Cannabis Indica, . . . . . 25 grammes (25 grains).  
 Hydrochlorate of Cocaine, . . . . . 6 grammes (6 grains).  
 Essence of Peppermint, 50 grammes (6 minims).

These different solutions are applied by means of pads made of wadding frequently renewed during the day.

M. Dupas concludes by bringing forward some very convincing cases in support of his views.—*Jour. Dermatology.*

#### CHLORIDE OF METHYL AS A LOCAL ANÆSTHETIC.

Dr. S. E. Berezovsky (*Letopis Khirurgicheskago Obshtchestva v Moskve*, December, 1890) describes experiments on dogs which he has made with the object of testing the anæsthetic action of chloride of methyl, as well as its effect on various animal tissues. The substance was used in the form of a spray. The experiments showed that: 1. a spray of two seconds' duration, when directed against intact integuments, produces complete anæsthesia lasting from fifteen to twenty seconds, the tissues remaining sufficiently soft to allow cutting; 2. a spray of five seconds' duration, while inducing a somewhat longer anæsthesia, freezes the skin to an inconvenient degree; 3. a seven seconds' spray gives rise to consecutive local congestion and inflammation; 4. a twenty seconds' spray causes sloughing of the tissues down to the muscular layer; 5. a convenient and harmless anæsthesia induced by a two seconds' spray, can easily be prolonged up to five minutes by repeating the spray at short intervals; 6. sufficient anæsthesia of exposed bones can be produced in the same way; 7. the spray does not cause either gangrene or thrombosis of blood vessels. The author next employed chloride of methyl (a spray of two seconds' duration, repeated according to the necessities of the case) as a local anæsthetic, in a long series of operations, such as circumcision for phymosis (4 cases,) removal of elephantiasis of the prepuce (1,) evulsion of toenails (2,) excision of cancer of the lip (2,) and atheroma (3,) large-auricular dermoid (1,) incision for empyema (2,) scraping out tuberculous ulcers and fistulae, etc. The results were invariably most satisfactory, the operation being in all cases

absolutely painless from the beginning to the end, while the healing of the wound left nothing to be desired, even in badly-nourished patients. The only disagreeable effect was a burning sensation at first; this, however, quickly gave place to complete numbness of the area sprayed upon. On the whole, the writer concludes that the chloride of methyl spray can be employed in all cases where an ether spray is used as a local anæsthetic; and that the former should be preferred to the latter, since 1. it induces anæsthesia "comparatively more quickly" than ether spray; 2. chloride of methyl is uninflammable, and hence can be safely employed in cases of cauterization, etc.; 3. it does not undergo any change from exposure to light or air; 4. it does not irritate mucous membranes even in children; and 5. it is cheaper than ether, since only very small quantities are required.—*Brit. Med. Jour.*

#### A NEW TREATMENT FOR CANCER.

Professor Adamkiewicz (*Przeglad Lekarski*), who has been for a long time engaged in the study of the poisonous nature of carcinoma, published in the form of a short notice, the successful treatment of 3 cases. No information is given concerning his method of treatment,—a sad imitation of Koch,—only that "he succeeded in producing atrophy of disseminated cancerous tumors." The remedy will be made public when his experiments and clinical observations are finished. The remedy does not elevate the temperature, and does not act injuriously upon healthy organs; nor does it affect the general state of the patient.

In 2 cases, with cancer of the lower lip under treatment by the new remedy, the lymphatic glands diminished in size and local reaction appeared. Microscopic examination of the cancerous tumor and the lymphatic glands showed "that the tissue was rarefied on account of the disappearance of cells."

In the third patient, also with cancer of the lower lip, all the tumefied glands of the neck (13 in number) almost entirely disappeared. The tumor itself was changed in its appearance and dimensions. The hard tumefaction in the mucous membrane around the mouth disappeared. Speech, whistling, and smoking became easy; the body-weight increased 4.20 kilogrammes (9½ pounds,) in 5 weeks.

#### ATROPINE IN ENURESIS.

The following is a brief account of a trial

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with atropia in 12 chronic bed-wetters in the New York Infant Asylum, Mt. Vernon, N. Y.: Nine boys and three girls, the ages ranging from 4 to 10 years, were selected for treatment. It is a custom in the institution to put the children to bed at 6 o'clock and to take them up at 10 to urinate. Being desirous of testing the value of atropia, the habits of life were not changed. The plan of treatment was that used by Dr. Wm. Perry Watson. A solution, consisting of 1 gr. sulphate atropia to 1 oz. distilled water; of this one drop was given for every year of age of the patient, at 4 and 7 P. M.; one-half of this quantity was given, however, in each case for the first few days; no unpleasant symptoms followed, and the full amount was given. Physiological symptoms were produced in three, but were unimportant. After six weeks slight improvement was noticed in four; at the end of the third month these four wet but once or twice a week. Seven were well at the end of the fifth month, rarely wetting. Treatment continued two months longer, when the dose was reduced one-half; this was given two months and stopped. It is nine months since treatment was stopped, and there has been no return of the trouble. The other five, which includes the girls, showed but slight improvement at the end of the fifth month of treatment, wetting nearly every night. During the next three months improvement was gradual, and at the end of the eighth month they wet not oftener than twice a week. During the tenth month there was only an occasional wetting. The dose was reduced one-half, and after a year of continuous treatment there was no wetting. The atropia was stopped, and there has been no return of the enuresis in six months. Eighteen months ago we had 12 chronic bed-wetters of the worst order; to-day they are well—the only medicine used was atropia, given as above.—*Archives Pediatrics.*

## MEDICINE.

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MYXEDEMA.

The author Buzdygan reports two very minutely observed cases of this disorder, to which the English physician, Ord, first gave the name "Myxoedema," Charcot "cachectic pachydermique," and which is identical with Kocher's "cachexia strumipriva." The first case was that of a female, aged thirty-four; the other; a tailor, fifty years old. Both

cases exhibited entirely those characteristic symptoms described by Ord, namely;

1. Characteristic edema of the skin of the face, as well as of both extremities, thickness of the mucous membrane in the oral cavity, considerable enlargement of the tongue.
2. Changes in the thyroid gland; in one case fibrous degeneration, in the other atrophy.
3. The affection of the nervous system was reduced in both cases only to diminution of the memory and depression of intelligence.
4. Lymphatic glands enlarged.
5. Voice changed, depending on hypertrophy of the mucous membrane of the larynx. This latter may also cause dyspnea.
6. The changes in the blood are not distinct, no leucocytosis being present, as some authors have reported.
7. Parasthesia in separate spots on the skin, itching, burning, as well as conjunctivitis catarrhalis, caused, according to Landau and Ewald, by irritation of the sympathetic nerve.
8. Both cases prove that after the process of digestion, mucin appears. In one case mucin also was found in the urine.
9. Temperature always subnormal (36.1° C.).
10. A certain connection between the changes in the genital apparatus in females and myxoedema can be accepted. In one of the author's cases menstruation had already ceased in the 28th year, four years before the appearance of the disease, and examination showed atrophy of the uterus.
11. As to the relation between the two sexes, ten females to one man is the generally accepted ratio.
12. Myxoedema mostly occurs in adults (over thirty years.)
13. The treatment in both of the author's cases, as in general, was without effect. Death always follows with the symptoms of collapse or uræmia.—*Gaillard's Med. Jour.*

## FORCED RESPIRATION OF OXYGEN.

Dr. G. E. Fell, of Buffalo, records in the *Journal of the American Medical Association*, June 6th, 1891, two interesting cases in which forced respiration of oxygen was used to combat the effects of overdoses of morphine. In the first case forced respiration by means of a face mask was first tried, but without much success. Tracheotomy was then performed, and continuous forced respiration maintained through the tube. With the sole exception of the still con-

tracted state of the pupils and the absence of cyanosis, there were at first no signs of life observable. The pulse and heart beat were quite imperceptible, but little by little they returned, and after twelve or fourteen hours of uninterrupted forced respiration the patient had so far recovered as to be able to breathe for herself, and she ultimately made a good recovery. In this case Dr. Fell observes, "artificial respiration would at no time have been of any avail to the patient." The second case was similar in some of its features. The face mask had again to be abandoned in favor of respiration through a tracheotomy tube, the gas being found to pass into the stomach and bowels as well as into the lungs. Improvement was noticed for a time, but an unlucky act of vomiting was followed by the entry of solid matter into the lungs and sudden cessation of the heart's action. The amount of labor entailed in the maintenance of this continued forced respiration is described as very great, and only possible by the help of "an army of students."—*Brit. Med. Jour.*

#### THE PULMONARY COMPLICATIONS OF STRANGULATED HERNIA.

From an article by Dr. J. Lesshaft, of the Berlin Pathological Institute (*Virchow's Archiv*, 123, iii.,) it would appear that the frequency with which pneumonia follows upon the reduction of strangulated hernia—operated on by taxis or by herniotomy—and the relation which such lung trouble bears to the intestinal lesion have both been variously estimated. Dr. Lesshaft is mainly concerned in correcting the impression conveyed by Dr. v. Pietrzikowski, who has recently maintained that pneumonia (as judged by clinical signs) is comparatively frequent in these cases, and who further supports the views held by Gussenbauer as to its causation. These views refer the pulmonary condition to embolism following upon thrombosis in the veins and capillaries of the walls of the strangulated bowel, in those cases at least in which no other explanation—e. g. by direct extension from peritonitis or pyæmia—can be afforded. Dr. Lesshaft, on the contrary, after an analysis of all the fatal cases of hernia examined at the Berlin Pathological Institute during thirty years, thinks the hypothesis of embolism is not justified on pathological grounds. He shows that the circumstances under which pneumonia occurs as a sequel to strangulated hernia, and the character of the pulmonary lesions, are such as may well be explained by the entrance

into the air passages of vomited matters. The condition, therefore, is one of *Aspirationspneumonie*, or *Schluckpneumonie*; and that it should be more liable to occur in cases of severe strangulation, or those in which gangrene of the gut takes place, is not surprising, since these are just the cases in which vomiting is most likely to be severe. Pietrzikowski has adduced experimental proofs in support of his thesis, which, however, are not substantiated by Dr. Lesshaft, who found that in the rabbit, pneumonia never followed artificial strangulation of the intestine; and in the dog it only occurred when it was possible for the aspiration of vomited matter to take place. Indeed Dr. Lesshaft is convinced that pulmonary infarctions do not occur in connection with the intestinal changes.—*Gaillard's Med. Jour.*

#### RECENT RESEARCHES ON THE RELATIONSHIP OF MENTAL TO CEREBRAL PROCESSES.

One of the most interesting of Dr. Münsterberg's researches is that which relates our sense of time duration with the respiratory act. After a most laborious investigation experimental results as to the perception of duration were found to be quite contradictory. There had been no want of ingenuity or precision in the observations. Münsterberg perceived that the discrepancy in the results must depend on the investigators themselves. He discovered that the cause is due to the fact that inspiration increases and expiration diminishes the power of attention, and that the respiratory rhythm is affected by attention. He thus demonstrates a wholly unsuspected relation between our estimate of the passage of time and muscular sense. Nor is this all. Reasoning on the lines of natural selection and the evolutionary hypothesis, he says: "An external stimulus can only have significance in preserving the organism if it have a centrifugal effect." Sense stimulus issues, for the most part, in muscular contraction; it issues in contraction, but not necessarily in movement, for we may have, of course, equilibrium due to the opposed contraction of antagonistic muscles. Thus, even when we sit down in the easiest position in our most comfortable arm-chair, and, letting the muscles go flaccid, set ourselves to think, we shall nevertheless be able to recognize the strain of antagonistic muscles, and discover a certain rigidity of the neck. His attention being thus directed to the importance of the muscular sense, Dr. Münsterberg instituted an elaborate series

of experiments which would tend to show that all our capacity of measuring quantity is dependent on feelings of strain which arise from muscular tension. Feelings of quantity differ from feelings of quality, in that the greater contains the less. Dr. Münsterberg thus resolves all measures of duration in time and extension in space into dependency on the varying quantity of muscular sensation. The small muscles of the eye and ear would thus come to play an important part in acquainting us with varying intensities of visual and auditory phenomena. Dr. Münsterberg, therefore, boldly proceeds on this basis of muscular strain to measure and reduce to a common standard the intensities of the different senses. Unfortunately, in this series of experiments, Dr. Münsterberg allowed himself to become the subject of experiment. It remains to be seen, by a careful repetition of these experiments in other hands, how far subjective expectation was a factor in the results.

Like Herbert Spencer and many others, Münsterberg would appear to desire to resolve our notions of time and space into simpler elements. But, as Professor Ladd observes: "To describe the rates and order and duration of successive ideas is a very different thing from explaining the idea of succession," we may show what contributes to the developed notion of time and space in the evolution of the individual, but the Kantian position would certainly appear to be impregnable. No collocation of sensations can possibly amount to the forms of time and space, for they are associated only in time and space, and to attempt to derive that in which they inhere from them is what is popularly called "putting of the cart before the horse."

Valuable as it is to correlate the physical chain with conscious experience, it should ever be remembered, to use Münsterberg's own metaphor, that the physical chain is known only within the "fixed eye" of consciousness. When we use the phrases "cause," "external world," "matter," etc., we use terms which have a meaning in consciousness alone. In referring the consciousness of the individual man to that which lies without him, we establish a relation. But what meaning has relation except as for that which experiences the relation, namely, conscious thought? A relation divested of all known quality is non-existent. When all our psycho-physical labors are concluded the criticism of consciousness remains. As Dr. Münsterberg himself informs us, it is idle to

seek in physiology a meaning for the fact of consciousness itself. The criticism of the nature of consciousness must be found, if anywhere, within consciousness itself. Such a criticism, so far as it has been made, has long recognized the impossibility of an entity or thing-in-itself, which neither thinks nor feels. But, of course, this is *caviare* to those who eagerly swallow a cheap and easy materialism. Those who identify a physical with an ontological explanation are the worst of metaphysicians, because they are wholly unsuspecting of the fact that they are so. They adopt a hypothesis, the presuppositions of which they have never attempted to analyze. They remind one of the famous personage who:

Was certain that the world is square,  
Because she'd travelled fifty miles and found  
No sign that it is circular anywhere.

—*Brit. Med. Jour.*

#### A CASE OF CONGENITAL HYGROMA.

Dr. Benjamin Iipavc (*Wiener med. Wochenschrift*, No. 24, June 13th, 1891) relates a case of congenital hygroma of the left axilla cured by antiseptic drainage. The patient, a boy aged 2 years, was born with a tumor the size of an apple, situated well on the outer side of the left nipple. During the first year it grew very slowly; towards the end of the year a navel-like depression appeared near its middle, and the tumor diminished somewhat. In the second year it grew rapidly and extended into the axilla. On the side of the thorax it reached as high as the clavicle, and its inferior limit corresponded to the fifth rib and presented all the typical characters of a congenital hygroma. An incision was made on the outer side of the cyst, 4 centimetres long, and a tolerably large quantity of yellow fluid, partly blood-stained, was evacuated. A counter-opening was made, a drainage tube inserted, and carbolized dressing applied. The whole of the hygroma did not collapse with the first incision. Fifteen days later a fresh incision and counter-opening was made and drainage continued. During convalescence the child contracted measles. The first opening was made on March 13th; by the end of June the cyst had shrunk to the size of a walnut, and the openings cicatrized. This, with some adjacent loose skin, was excised. At the end of July the wound was completely healed and the child in good health.—*Brit. Med. Jour.*

## SURGERY.

## THE TREATMENT OF VARICOSE VEINS.

Dr. William Taylor, in the *Provincial Medical Jour.*, advocates blistering. He discovered its good effects, accidentally, when treating a case of gout by means of blisters, and had since tried it in many cases with considerable success, and found it specially useful in old people. He considered blistering to be "eminently restorative" in varicose veins. Dr. Taylor did not believe in elastic stockings, and considered operative treatment unscientific. He supposed that the coats of the veins participated in some way which he could not explain, in the restored vitality set up by the action of the blisters. He found that the veins remained sound for several years, but were then apt to become distended again, and required the treatment to be renewed. Its great advantage was that it could be used in cases where palliative treatment was contra-indicated, and that it always did good to the solid oedema so often associated with the varicose condition. The details of the treatment were as follows: 1. Remove the cause. 2. Obviate the tendency. 3. Elevate the limb for twenty-four hours. 4. Blister from the foot upwards, six inches daily, watching the kidneys and bladder. First paint the part with Rubini's tincture of camphor, then with blistering fluid, and lastly with collodion. The blisters must rise and serum be withdrawn to do good. 5. When whole limb is blistered, apply plaster to the whole length of the vein for two weeks. 6. Remove the plaster and see what is the result of the treatment. If the veins bulge, blister again; if they are all right apply more plaster, and allow gentle exercise for a week. If at the end of that time the veins are still in good condition, no further treatment is needed.

Landerer, in the *Med. Press*, May 20, 1891, details a new method of treating varicosities. This consists in the application of a kind of truss, that was applied like a garter, and by its permanent pressure on the saphena vein effected a cure. Pressure was obtained by an india rubber pad situated on the inner surface of the truss and filled with water. The pressure was constantly kept up until the wall of the dilated vein was ulcerated through. He had adopted this method of treatment from an observation of a deceased colleague, Herr Ravoth, who treated varicose veins by the application of a truss.

Tobin gives particulars, in the *Dublin Jour. of Med. Science* for June, 1891, of a

case of septic phlebitis treated by him, in which the disease was secondary to the removal of portions of varicose veins, and originated not in the operation wounds but in a small ulcer near the ankle. On the ninth day after operation symptoms of acute septic phlebitis were fully developed. The patient had had two marked rigors; temp. 105°. All the superficial veins on inside of leg and three inches of long saphenous vein were engaged. Mr. Tobin reflected the skin from the affected parts and removed every diseased vein, following each till an apparently sound point had been reached. The subsequent history was satisfactory. The wound healed rapidly. No further rigor occurred. Severe constitutional disturbance, indicating that secondary centres of infection had formed during the delayed interference, continued, and it was not till a month after the operation that the patient's temperature was normal, and his condition in every way satisfactory.—*Epitome.*

## RELATION OF MALARIA TO SURGICAL OPERATIONS.

Dr. M. Perez (*Annals of Surgery*) says one should avoid as much as possible operations in places or districts where malaria prevails. In cases of operation upon individuals residing in malarial districts, or even those who have formerly dwelt in such region, although they may never have presented malarial symptoms, they should be subjected to a preliminary treatment by quinine, in order to avoid complications.

Individuals may be met with in whom there is a latent existence of the germ of malaria. These latter may develop when the strength of the patient has been lowered by hemorrhage, suppuration or other causes.

If one had to decide between a bloody and a bloodless method of operation, the latter should be chosen, for beside avoiding hemorrhage, a mixed infection is thus prevented.

In cases where operation on account of some suppurative process is necessary, and were malaria has formerly existed, a careful analysis of the urine and an examination of the liver, spleen and kidneys should be made, for the patient may be suffering from diabetes or amyloid degeneration.

If hemorrhage or intermittent pain follow the operation, they may be combated by the various preparations of quinine.

## TREATMENT OF PENETRATING WOUNDS OF THE ABDOMEN.

Dr. Lanphear concludes as follows:

October 3, 1891.

## Periscope.

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1. All cases of penetrating gunshot wounds of the abdomen demand laparotomy; most others also require it.

2. The operation should be done immediately after the injury, if possible, so as to control bleeding before the patient is exhausted.

3. Any time within twelve hours may be regarded as the "time of selection," but the lapse of many hours, or even days, need not prevent operation, since death from septicemia is likely to occur.

4. A condition of collapse is not an insurmountable contra-indication.

5. The existence of peritonitis demands rather than forbids, an operation.

6. In gunshot wounds Senn's hydrogen gas test should not be employed, as the indications are *always to operate*; perforation of intestines is not necessary to render the wound fatal. In other penetrating wounds the test may be employed.

7. Laparotomy is, in such cases, comparatively an insignificant operation. Any surgeon of ordinary skill ought to be able to successfully operate.

8. In case of emergency, the operation here described can be made without an elaborate set of instruments. A success can be obtained by the use of only: (a), a knife; (b), scissors; (c), needle and thread; (d), haemostatics; and (e), *good judgment*.

—*Medical Review.*

#### THE PRESENT STATUS OF THE TREATMENT OF URINARY CALCULUS.

Every few years we find the practice in any particular form of disease undergoes radical changes, so that the methods in vogue in the near past are almost entirely superseded by newer and more modern ones; or possibly, the profession reverts to an operation largely practiced in the past, one which has remained quiescent for a number of years, only to be again brought forward.

In regard to the affection under consideration, the modern (present day) sentiment appears to be as follows:

1. Wherever possible, resort to litholapaxy.
2. If litholapaxy is contra-indicated by a maculated bladder, a high degree of cystitis, stricture of the urethra, or an irritable, contracted bladder, one of the cutting operations must be performed.

3. If the stone is not very large, and can be extracted by that method, the median praeinal method is preferred.

4. If the stone is very large, or if there is

reason to suspect the co-existence of tumors of the bladder, or any reason calling for a complete exploration of the interior of the bladder, resort should be had to supra-pubic cystotomy.

5. The existence of cystitis, or other necessity for drainage of the bladder, calls for the lateral operation.

From the above summary it at once becomes evident that the range of lateral lithotomy has been largely curtailed, while that of litholapaxy has been wonderfully increased. In fact, the crushing operation is now almost universally recognized as the operation of choice whenever possible. The grounds upon which this decision rests are that the crushing operation is less risky; it is applicable to all ages; the time of convalescence is very short compared with the other operations, and the mortality is much lower.

The chief objection against litholapaxy is the possibility of leaving some fragment of the stone in the bladder, to act as a nucleus for a new stone. This oversight has frequently occurred, but the fragment has always been detected early, and is easily removed by reintroducing the lithotrite.

The dangers and difficulties of the median operation are usually slight, but its range of successful application is limited. The time necessary for the healing of the wound is an objection.

Supra-pubic cystotomy is somewhat difficult of performance, more paraphernalia are required, and the dangers of complications are perhaps greater than those of any other operation for the relief of this trouble.

At present the tendency is to almost entirely banish lateral lithotomy from the list of surgical procedures applicable to this affection, preference being given to either the median or supra-pubic operation. Time only can determine whether this condition of affairs will continue or not. Some surgeons still cling to the lateral incision, and are loath to discard it.

In this paper we have endeavored to present to our readers, in as concise form as possible, the views held by the leading surgeons of the day, and have aimed to avoid expressing any prejudiced or biased views. To sum the whole matter up in a few words, we can say—this is an age of litholapaxy.—*Cincinnati Lancet and Clinic*, May 30th, 1891.

#### INGROWING TOE-NAIL.

Dr. Pürckhauer recommends the following method in the treatment of ingrowing toe-

nail: A forty per cent. solution of potassa is applied warm to the portion of the nail to be removed. After a few seconds the uppermost layer of the nail will be so soft that it can be scraped off with a piece of sharp-edged glass: the next layer is then moistened with the same solution and scraped off; this must be repeated until the remaining portion is as thin as a sheet of paper, when it is seized with a pincette and lifted from the underlying soft parts and severed from the other half. The operation does not require more than half an hour's time, is painless and bloodless, while the patient is delivered from his suffering without being disabled even for an hour.—*The Pittsburgh Medical Review.*

#### GYNAECOLOGY.

##### MASSAGE AS APPLIED TO THE TREATMENT OF INCONTINENCE OF URINE IN FEMALES.

At the February meeting of the Royal Academy of Medicine in Ireland (*Dublin Jour. Med. Science*, April, 1891) Dr. Bagot read a paper on this subject. He gave a full account of the treatment of this affection by the Brandt system, by Sänger's method, which consisted in dilatation of the vesical sphincter, and also by massage, by distension of the bladder with warm water, as practiced by Nissen and Marion Sims, junior. He had cured three cases by the use of Brandt's system, omitting some of the steps which he considered useless. The most essential part of this method of treatment was the direct treatment of the neck of the bladder by the finger in the rectum or vagina. In children one used the finger in the rectum. The first case was that of a woman aged 30, married eight and a half years, who had borne five children. She had suffered from incontinence more or less since her last confinement eighteen months previously, and had become worse during the last nine months, her water passing from her whenever she walked about, or on making any sudden effort, such as coughing. She frequently passed her water under her when asleep. Examination showed perineal laceration of the first degree, a rather patulous urethra, slight prolapse of the anterior vaginal wall, and vagina and perineum abnormally distensible; uterus and appendages normal; no abnormal tenderness or irritability of the bladder could be detected on passing a sound; the urine was normal.

She was at first treated every day for four days by Brandt's system, omitting "the lifting" of the bladder. She was told to wear woollen drawers, and to try to control her sphincter whenever she felt the water passing from her. After this she was treated every second or third day for twenty-nine days. At the end of this time a permanent cure was effected.

The second case, an unmarried woman of 24 years of age, had suffered from childhood from enuresis. Two years previously she had been treated every second day for six weeks by electricity without benefit. Examination revealed nothing abnormal but a slight cervical catarrh, cured by the application of pyroligneous acid. She was treated by Brandt's system—omitting the "exercises for the adductors of the thighs" and "the bladder lifting"—every second day for five weeks, at the end of which time she was discharged quite well.

The third case was similar to the first. Incontinence on exertion had lasted three years. Treatment was carried on for four weeks; during the first week daily, only the "lifting" being omitted. Afterwards the treatment was performed every second or third day, and the tapotement of the lumbar and sacral regions, as well as the exercises for the adductors of the thighs, were also omitted.

Dr. Bagot discarded the bladder lifting because it would be impossible to elevate and seize that organ by the manœuvre described by Brandt when it was empty; and, were the bladder full, the procedure could not be carried out on account of the sensitiveness of the organ. He failed to see how tapotement of the lumbar and sacral regions could be of any use in this affection, or in uterine displacement, and he had discarded it. The exercises for the adductors might be of use when the pelvic floor was greatly relaxed. The chief part of this method was the direct treatment of the neck of the bladder.

Dr. Bagot had treated two patients by the method of Sänger, who believed the basis of the affection to be paresis of the vesical sphincter with, perhaps, a certain tenuity of the muscular bundles. This method was not indicated when there was any very great dilatation of the bladder neck and whole urethra. In these cases, artificial narrowing of the urethra, by some such method as Schultze's or Pawlik's, was more likely to succeed. When the dilatation was not so great, Sänger advised that his method should be tried. Massage by distension of the

bladder with warm water was of use in cases of contraction of the bladder following long-continued incontinence of urine from any cause, such as fistula, or where patients had formerly suffered from cystitis of long standing. Dr. Bagot urged the necessity of a careful diagnosis in all cases, paying special attention to the urine and to the other pelvic organs. He found Dr. Nitze's cystoscope to work efficiently, and he employed this method of examination in all cases of bladder trouble. In reply to some objections by Dr. More Madden, Dr. Bagot said that, in applying massage where stroking movements were used, they were performed by the external hand through the abdominal wall, the fingers in the vagina being held quite still, and being used simply to raise and support the parts while being massaged. The internal hand did not move more than during an ordinary bimanual examination. He explained that he had not said he massaged the bladder, but its neck. This he considered the essential part of the Brandt treatment, and it could be applied per vaginum or per rectum, no matter how empty the bladder might be.

#### OBSTETRICS.

#### VOMITING OF PREGNANCY AND HYSTERIA.

Kaltenbach holds that the clinical history and the "cures" of cases of uncontrollable vomiting of pregnancy indicate that the disease is essentially due to hysteria. Pregnancy involves physiological and psychological conditions favorable to the development of hysterical symptoms in a modified form. Hyperæmisis is often cured by a process akin to suggestion, like ordinary hysteria. "Doing something," dilatation of the os, massage, etc., often succeeds if the practitioner gains the patient's confidence, and hosts of drugs have answered, apparently under the same conditions. On the other hand, all these vaunted medicines and operations have failed when employed by physicians who possibly did not possess as much tact as knowledge. Hyperæmisis may suddenly cease if the patient be alarmed, as in a case of the author, where the patient was reduced to a skeleton; a day being fixed for the induction of labor, her friends frightened her by saying that she could not survive such an operation. The vomiting ceased. The same sudden arrest of hyperæmisis was observed by Cazeaux in a young wife whose

husband was seized with symptoms of strangulated hernia. In a third case, the vomiting ceased on the outbreak of an acute exanthematous fever. Kaltenbach describes a bad case where the patient, aged twenty-one, made an unhappy marriage, and was unkindly treated by her husband. Very severe vomiting set in during her first pregnancy, and she was sent into a Hospital. It was suggested to her that she had lumps of unwholesome material in her stomach, and that their removal would cure her. Some milk was given to her, ceremoniously, and shortly after the stomach was washed out. Its contents bore no indications of either over-acidity or any abnormal ferment. The patient was then informed that all was right, and that the vomiting would not return. It ceased accordingly, and she was safely delivered at term. In short, Kaltenbach urges that hyperæmisis gravidarum should be treated as a purely hysterical complaint. Prompt treatment is indeed necessary, for as in hysterical vomiting of non-pregnant women the patient may, if at first neglected, die of syncope or nervous exhaustion even when the vomiting has been stopped. But isolation from domestic cares and imprudent friends, with appropriate moral treatment, should be enforced before so extreme a step as artificial abortion is undertaken.—*Boston Med. Surg. Jour.*

#### MORPHINE IN PREGNANT, PARTURIENT AND NURSING WOMEN.

Fürst (*Arch. d'Obstet. et de Gyn.*, March, 1891.) Owing to the contradictory opinions on the subject, Fürst has made a study of the effect upon the fetus, of morphine administered to the mother. One woman during her first pregnancy had taken about 1,200 hypodermic injections of a three per cent. solution of morphia; during her fourth pregnancy 800 of a similar solution were taken. The children were well developed physically and intellectually—and they had not acquired the morphine habit. Before birth, however, the fetus were quiet after the exhibition of the drug to the mother and the movements became painfully active when its effects passed off. From this and similar observations Fürst concludes that morphia does not compromise the life or health of the fetus to so great an extent as has been assumed. Its moderate use in pregnant women is without danger and it may be given with advantage in the treatment of threatened abortion or premature labor. During labor its use is more dangerous, especially in pro-

longed labor. In nursing women the drug passes rapidly into the milk.

#### INCISION OF THE OS UTERI DURING PARTURITION.

Guéniot (*Jour. de Méd.*, March 22, 1891,) says that after one has tried various other means for overcoming rigidity of the os without success, one may be forced to have recourse to incisions, and he advises the following method in case incisions are decided upon : 1. Rigorous antisepsis. 2. The use of long and strong scissors, or in certain cases of a blunt-pointed bistoury. 3. The directing of the instrument with two or more of the fingers. 4. The pressure of the fingers within the uterus upon the uterine tissue in such a way that bridges or prominences will be thrown out which can be readily cut. 5. The multiplication of these incisions superficially in preference to diminution of their number with increased depth. 6. In cases in which it is advisable to limit the number of incisions to two or three, it is better to make them in the transverse diameter of the neck and so avoid wounding neighboring organs.

#### PEDIATRICS.

##### THE RADICAL CURE OF HERNIA IN CHILDREN.

The various operations for the radical cure of hernia in children are discussed by Dr. Henry O'Neill in the *British Medical Journal*. In his opinion, the most suitable cases for operation are the following : 1. Those of children of the poor, who either are unable to buy trusses or can not look properly after their daily application. Unless a truss is properly fitted and applied it is worse than useless. 2. Those of children in whom the hernia is so large that an ordinary truss is not sufficient to keep it reduced while the child is running about at play. 3. Most cases where a truss has been worn for at least twelve months without improvement, or where the hernia is increasing in size. 4. Those of children who are likely to become laborers in later life. 5. Every case after kelotomy has been performed for the relief of strangulated hernia.

In deciding upon the method to be employed, each case must be treated according

to its own peculiarities, and exposure of the sac is usually necessary before these can be ascertained. In congenital hernia Macewen's method is best. If the sac has been torn and the wound is not easily closed, the sac may be ligated close to the neck and cut off half an inch below the ligature, and the upper end of the sac sutured to the abdominal muscles above the internal abdominal ring. This is known as Bank's method. Barker's method may also be selected, by which the sac is ligated in two places and divided between the ligatures, the upper part being sutured to the abdominal muscles and the lower part retained in the scrotum.

The following conditions must be observed to insure success : The patient is to be prepared for the operation by being given a warm bath each day for several days, having the bowels kept free, being given a milk diet and being kept in bed. The parts are to be prepared by thorough washing with soap, then with alcohol, and finally with a solution of carbolic acid or creolin. All hemorrhage is to be arrested, and the wound drained with a bone drainage-tube, chromicized cat-gut being used for sutures and ligatures. The bandage and the dressings, which should be of absorbent wool, are to be firmly covered with an India-rubber web bandage. The wound should be dressed seldom, and only when the discharges stain the outer dressings, or when the temperature rises suddenly above 101° F. An opiate may be given for two or three nights. An anæsthetic should be used for the first two dressings, to prevent the child from crying and straining the abdominal wall.

Mr. R. W. Parker also contributes a paper on the same subject, and describes his method of operating. An incision two inches long is made to expose the sac, which is then cleared of the looser and more external layers. All the adventitious structures are not cleared away, for the sac proper in children is very thin and liable to tear. The spermatic cord being put well out of the way, the sac is drawn down as far as possible and three or four stitches are put in, drawing the neck of the sac firmly together. The object is to retain the silk ligatures permanently *in situ*, or as long as possible. If drawn too tight they are apt to cut their way out and so lead to failure. The neck of the sac is now allowed to retract well back within the external abdominal ring, after which the pillars are drawn together and the wound is closed.—*N. Y. Med. Jour.*

## HYGIENE.

## GOUT AND FRUIT EATING.

In the last number of his *Archives of Surgery*, Mr. Jonathan Hutchinson says that he has for many years been in the habit of forbidding fruit to all patients who suffer from tendency to gout. In every instance in which a total abstainer of long standing has come under his observation for any affection related to gout he has found on inquiry that the sufferer was a liberal fruit eater. Fruits are of course by no means all equally deleterious; cooked fruits, especially if eaten hot with added sugar, are the most injurious, the addition of cane to grape sugar adds much to the risk of disagreement. Fruit eaten raw and without the addition of sugar would appear to be comparatively safe. Natural instinct and dietetic tastes have already led the way in this direction, few wine drinkers take fruit or sweets to any extent, and Mr. Hutchinson suggests as a dietetic law that alcohol and fruit sugar ought never to be taken together, and he believes that the children of those who in former generations have established a gouty constitution may, although themselves water drinkers, excite active gout by the use of fruit and sugar.—*Brit. Med. Jour.*

## HYGIENE AND HOSPITALS IN ST. PETERSBURG.

In 1889 the 11 hospitals of the city ministered to nearly 50,000 sick persons—that is, to 5 per cent. of the entire population of the city. There should be reckoned besides in St. Petersburg 42 hospitals sustained by the different institutions, 40 infirmaries and dispensaries and 16 lying-in establishments. In general the municipal council devotes special attention to the department of public health. It has constructed an immense filter through which passes all the water that is distributed to the city; it renders healthy the populous portions; it supplements the efforts of physicians in giving gratuitous service to the poor; it visits the poor in advance that they may not come upon the city for support; it creates abattoirs and laboratories for the analysis of articles of food or in its preparation; it inspects the markets, the back shops, the kitchens of the restaurants, etc. That which argues much for its activity, there are numbers of statistical bureaus. In 1881 the mortality of St. Petersburg had risen to 33.2 in 1,000; in 1884 it was only 34.4 to 1,000; it has since continued to decrease,

and in 1889 it was only 27.2. In ten years it had, therefore, diminished 33.5 per cent. Such figures require no comment. Would that every district of Russia would take for its model its capital.—*L'Union Medical.*

## MEDICAL CHEMISTRY.

## A NEW SUBSTITUTE FOR MUSK.

Another claimant for favors as a cheap substitute for musk made its appearance in trade some weeks ago. It is manufactured in Germany, and appears in the form of a white, crystalline powder in needle-shaped crystals a few millimeters in length. It is called tonquinol. It is said to be suited both to soap and perfume manufacture, to remain impervious to the influence of light for a prolonged period, and to be easily soluble. An alcoholic solution of 1 to 50 may be diluted with water to any extent, and herein it differs from musk Baur. Tonquinol is said to be soluble in most of the usual solvents, including fats, oils, ether and chloroform. Its odor is not affected by boiling caustic potassa. The price is about 25 per cent. lower than that of musk Baur.—*Chem. and Drug.*

## NEWS AND MISCELLANY.

## THE VASOMOTOR NERVES OF THE RETINA.

Doyou (*Arch. de Physiol.*, 3, iii, 1, p. 13, 1891) finds that electrical stimulation of the sympathetic nerve or asphyxia causes dilatation of the retinal blood vessels. The same result occurs when the animal is asphyxiated after section of the sympathetic nerve, so that obviously, besides the sympathetic nerve, there is still some other channel by which the vasodilator impulses reach the retina. This is the fifth nerve. If in a dog the sympathetic nerve be divided, after waiting twelve days until the nerve fibres of the sympathetic are degenerated, then exposure and stimulation of the Gasserian ganglion within the cranium caused dilatation of the retinal vessels, and at the same time redness of the lips and gums.—*Brit. Med. Jour.*

## A COURSE OF LECTURES ON DISEASES OF THE URINARY APPARATUS BY DR. J. W. S. GONLEY.

A course of lectures on Diseases of the Urinary apparatus is to be delivered by Dr.

J. W. S. Gonley at the Mott Memorial Hall, 64 Madison Ave., New York, beginning Tuesday, October 6, at 8.30 P. M. There will be one lecture every Tuesday night at the Mott Hall, and one clinic at Bellevue Hospital every Saturday at 3 P. M. The lectures and clinics are free to the profession and to students of medicine.

#### MENSTRUATION IN THE MALE.

Paul Albrecht (*L'Anomale*, 1890, Ill.) draws attention to the fact that white blood corpuscles appear in the urine of men at regular intervals, are present three or four days, and then disappear. This he interprets as a kind of menstruation. The idea is not a very strange one, for it is a known fact that men with excessive hypospadias menstruate. He offers this as another proof of the independence of menstruation and ovulation. It is to be hoped that further investigation will afford a clearer exposition of the subject.

#### VACCINATION.

Before the vaccination by Jenner was adopted, smallpox was one of the most formidable scourges of the human race, causing a mortality of 10 per cent. Since its general adoption it is less than 1 per cent. During the prevalence of smallpox in Prussia, from 1857 to 1861, nearly eight thousand among the civil population died. The mortality in the army, where vaccination was rigidly enforced, was practically *nihil*.

During the period of thirty years just before the introduction of vaccine in the province of Trieste, the deaths from smallpox alone were 14,000 per 1,000,000 of inhabitants, and only 182 during the period of two years which followed the practice of vaccination.—*Weekly Medical Review*.

#### A DIAGNOSIS.

A writer in the *Western Medical Reporter* facetiously writes: Nature with a lavish hand has endowed the human body with no less than 'steen million of spots to which an ache or pain can be attached. When each one of these spots, both inside and out, is filled with a hard platinum tipped pain; when your head aches so that you are conscious of all the ruffles and scallops on your brain just as you see them in the pictures in your physiology; when your heart thumps and your stomach wobbles and you have the feeling that something is wallowing

through your inside works; when your sternum feels stove-in and there is an uneasiness under your shoulder blades as though your wings were beginning to sprout; when you are one moment alive to the finger tips with thinking of the things you must get up and do and the next completely exhausted by even the thought of doing them; when your back-bone has the sensation of being twisted by a monkey-wrench; when you are so dizzy that you can't see, and your ears ring and eyes water and your nose is in such a state that it is presumption to lay aside your handkerchief for one short minute; when you cough and sneeze and groan in turn—in fine, when you feel like the very deuce—you can set it down that you have the grip.

#### EXPENSIVE DRUGS.

The following price-list, copied from Vol. II, page 56, of the *Diary of a War Clerk* (Lippincott & Company), will tell some of the many disadvantages under which the Army Medical Department of the Confederate States of America labored during the Civil War:

Quinine, . . . .	\$100.00	an ounce.
Calomel, . . . .	20.00	"
Blue Pill, . . . .	20.00	"
Opium, . . . .	100.00	"
S. N. Bismuth, . . . .	100.00	a pound.
Bicarbonate of Soda, . . . .	5.00	"
Bichlorate of Soda, . . . .	14.00	"
Ol. Bergami, . . . .	100.00	"
Cupri Sulph, . . . .	10.00	"

#### CONTRACT-PRACTICE IN BERLIN.

The Berlin correspondent of the *Therapeutic Gazette*, July, 1891, gives some ray news from the immaculate German capital. One part of this letter possesses a special interest for the physicians of New Orleans. The correspondent describes the evils of contract-practice as it exists there, and which he dominates "society practice"—precisely what it is called in New Orleans. Our physicians may find some consolation in reading the correspondent's remarks, and if they do find it they are welcome to it. He says:

"The Berlin physicians are just now greatly agitated by the question of 'Krankenkassenärzte' (physicians of sick-benefit societies). Hitherto a member of such a society was compelled to consult the doctor of the society, who received a yearly salary for his services. As all Berlin workingmen and working women are legally compelled

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to belong to a sick-benefit society, the work of doctors elected by such societies is naturally an enormous one. Their houses are actually besieged by patients, while hundreds of other physicians have no patients at all. The consultations which the "society doctors," as I will call them, grant to each patient are ridiculously short and absolutely incapable of benefiting the patients. I have heard of doctors "doing" over one hundred patients a day, and also have heard the number of minutes allotted to various consultations:

Minor surgical cases, . . . .	15 minutes.
Gonorrhœal affections, . . . .	10 "
Headache and other pains, . . . .	5 "
Influenza, . . . .	6 "
Rheumatism, . . . .	6 "
Examination of the lungs, . . . .	5 " etc.

It is evident that this state of affairs is an improper one and equally undesirable for both patients and doctors. To enhance the morbid character of the affair, the compensation of the physicians is a ridiculously low figure, viz: *eight Pennies* (two cents) per consultation, on an average. This figure is no fancy of your correspondent's brain, but has been officially fixed by statistical investigations and has been published broadcast in all papers. Imagine the blissful state of the practitioner rewarded by two cents for an auscultation of the chest. At last the Berlin doctors have waked up and taken energetic steps toward extinction of this shameful condition."

#### THE CHINESE CEMENT SCHIO LIAO.

The Chinese manufacture under the name of Schio-liao an excellent cement capable of joining broken porcelain, glass goods, stoneware, marble, etc. The proportions and ingredients are as follows: Lime reduced to a fine powder 54 parts, alum 6 parts, fresh blood 40 parts. The materials are vigorously worked up together into a mass of a homogeneous consistency. When diluted it may be used for saturating cardboard and objects made of paper, the result being that they become as hard as wood. The Chinese also use this cement in a dilute form as a protective varnish for the walls of their houses, and also for varnishing the interior surface of those vessels in which they carry oil and other fatty matters.—*Pottery and Glassware Rep.*

#### ALCOHOL IN PATENT MEDICINES.

A drink of whiskey is resorted to by the taper to "make him feel better." Alcohol

seems to produce a temporary elation which many makers of patent medicines take advantage of. If a dose of the medicine seems to affect the patient at once, the presumption is that he will go on taking the remedy. Besides this, if the alcohol habit is once formed it will be hard work to discontinue taking the medicine just as it is hard to stop drinking whiskey when the habit is once formed. Look out for a majority of the "bitters"—they are simply disguised alcohol.

In the report on nostrums, proprietary medicines and new drugs, which was read before the American Association for the Cure of Inebriates, is found in the appendix the following list of the results of the analyses of a large number of well-known patent medicines. Some of the more popular ones contain alcohol as follows:

	Per cent. of Alcohol
Dr. Buckland's Scotch Oats Essence,	35
(Also 1-4 gr. morphine to the ounce.) A more insidious and dangerous fraud can scarcely be imagined, especially when administered as this is recommended, for the cure of inebriety or the opium habit.	
The "Best" Tonic,	7.65
Carter's Physical Extract,	22
Hop Tonic,	7
Howe's Arabian Tonic. "Not a rum drink."	13.2
Jackson's Golden Seal Tonic,	19.6
Leibig Co.'s Coca Beef Tonic,	23.2
Schenck's Seaweed Tonic,	19.5
" Distilled from seaweed after the same manner as Jamaica spirit is from sugar cane. It is therefore entirely harmless, and free from the injurious properties of corn and rye whiskey."	
Atwood's Quinine Tonic Bitters,	29.2
L. F. Atwood's Jaundice Bitters,	22.3
Moses Atwood's Jaundice Bitters,	17.1
Brown's Iron Bitters,	
" Perfectly harmless. Not a substitute for whiskey."	19.7
Burdock Blood Bitters,	25.2
Carter's Scotch Bitters,	17.6
Drake's Plantation Bitters,	33.2
Flint's Quaker Bitters,	21.4
Goodhue's Bitters,	16.1
Hartshorn's Bitters,	22.2
Hoofland's German Bitters,	25.6
" Entirely vegetable and free from alcoholic stimulant."	
Hop Bitters,	12
Hostetter's Stomach Bitters,	44.3

Kaufmann's Sulphur Bitters,	20.5
"Contains no alcohol." (In fact it contains no sulphur, but 20.5 per cent. alcohol.)	
Liverpool's Mexican Tonic Bitters,	22.4
Pierce's Indian Restorative Bitters,	6.1
Rush's Bitters,	35
Dr. Richardson's Concentrated Sherry Wine Bitters,	48.5
"Three times daily or when there is a sensation of weakness or uneasiness at the stomach."	
Walker's Vinegar Bitters,	6.1
"Free from all alcoholic stimulants. Contains no spirit."	
Warner's Safe Tonic Bitters,	35.7
Warren's Bilious Bitters,	21.5
Faith Whitcomb's Nerve Bitters,	20.3

—*Healthy Home.*

#### GYNÆCOLOGY IN SPAIN.

Gynæcology is at present occupying the medical world of Madrid, and in accordance with the grandeur that is inseparable from Spanish monarchy, the attempt to found a suitable institution for the teaching of midwifery and diseases of women in Spain is being made on a most elaborate scale.

The last number of *El Siglo Medico* gives the scheme of the intended institution. From the report I learn that the course of study in the new institution is to be extensive and thorough. Three years' study will be required for the license. The studies appointed are:—

1. The anatomy of the female, with special reference to midwifery and diseases of woman.
2. Embryology and histology.
3. Physiology, especially in its relation to the female.
4. Hygiene.
5. Midwifery.
6. Diseases of women.
7. Female surgery.

The practical instruction is to include:—

1. Obstetric clinics.
2. Gynæcological clinics, and
3. Instruction in the use of instruments and so forth.

During the first year the students are required to study anatomy, embryology, histology, and attend laboratory instruction for the first session; in the second session of the year, physiology and hygiene are added.

The second year is devoted to practical midwifery, gynæcology and pathology, and surgery of the female.

The third year is devoted to clinical teaching.

Everything that forethought and an intimate knowledge of the requirements of the profession demand is being done to place Spanish gynæcological medicine in the front rank. All will wish the undertaking success. We cannot forget that in the past, Spain promoted science; Roger Bacon drew his inspiration from the Peninsula, the Spaniard Bonetus introduced in modern times the oral instruction of deaf mutes, Servetus foreshadowed Harvey in the discovery of the blood, and it was a Spanish monarch who honored Vesalius, the father of anatomy. The country of Cervantes, Lopez de Vega, and Calderon, is capable of much good work. The conquest of the Western Hemisphere, the expulsion of the Moors, the legacy be-gotten of Charles V in the German Empire, the family feuds of the Bourbons, all diverted the Spanish from science, but a happier epoch commenced with Alphonso's birth, and everything points to the "victories of peace" that will elevate Spain to its rightful place among civilized nations.—*Medical Press.*

#### THE IDENTITY OF PUS COCCI AND ERYSIPELAS COCCI.

At the meeting of the Medical Society of Hamburg, of June 9th, E. Fraenkel demonstrated the cocci of pus procured from inoculation with the cocci of erysipelas. He had already procured a true erysipelas in the ear of a rabbit by inoculation with pure cultivation of the streptococcus, and now he had succeeded with the converse experiment of producing the streptococcus from inoculation with the cocci of erysipelas. Clinical observation confirmed what he had stated. Abscesses containing streptococci were often met with in patients suffering from erysipelas. In a case of secondary facial erysipelas, a point of exit was found in a whitlow under the nail which contains streptococci. In another case a primary erysipelas of the face was followed by a phlegmon of the breast and the mediastinum, as well as by pleurisy. Streptococci were found in all these cases. For the sake of experiment he inoculated pure cultivations of the erysipelas coccus upon the peritoneum of mice, and on the ear of rabbits. In the first case peritonitis was set up and in the other abscesses of the ear. In both cases examination revealed the streptococcus as usually met with in abscesses.